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CORRESPONDENCE-STUDY DEPARTMENT

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YOHEI TSUNEKAWA, A.B., Docent in Japanese.
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CLARENCE J. PRIMM, A.M., Fellow in Political Economy.

III. GENERAL INFORMATION

The General Plan for Extra-Mural Teaching.—All non-resident work of the University of Chicago is conducted through the University Extension Division. The University extends its teaching beyond its classrooms in two ways; (1) By lecture-study courses: (2) by correspondence-study courses. The scope of the Correspondence-Study Department is explained in the following paragraphs:

1. Teaching by Correspondence.—Experience has shown that many subjects can be taught successfully by correspondence. *Direction* and *correction* can oftentimes be given as effectively in writing as by word of mouth. Obviously, self-reliance, initiative, perseverance, accuracy, and kindred qualities are peculiarly encouraged and developed by this method of instruction.

2. Purpose and Constituency.—This Department of the University Extension Division does not provide a *curriculum* leading to a degree, but furnishes a *list of courses* from which the student may choose such as will afford helpful and stimulating study. It aims to offer anyone anywhere the opportunity of securing instruction from specialists.

The work appeals, therefore, to the following classes: (1) Students preparing for college; (2) college students who are unable to pursue continuous resident study; (3) grammar and high-school teachers who cannot avail themselves of resident instruction; (4) teachers and others who have had a partial college course and wish to work along some special line; (5) instructors in higher institutions who desire assistance in the advanced study of some subject; (6) professional and business men who wish technical advice; (7) ministers and Bible students who would fit themselves better to use the sacred Scriptures; (8) all who desire a broader knowledge or a more thorough scholarship.

3. Method of Instruction.—Each correspondence course is designed to be equivalent to the corresponding residence course, and contains therefore a definite amount of work. A *major* (Mj) calls for an amount of work which a student in residence would be expected to accomplish in twelve weeks, reciting five hours per week. A *minor* (M) calls for one-half as much work as a major. The resident student who does full work completes three majors every three months, but the correspondence student has a minimum of twelve and a maximum of fifteen months (or, if extension of time is granted, of twenty-seven months) for completing whatever number of major or minor courses he applies for (cf. § 6, *d* and *f*). On the other hand he is permitted to finish courses as rapidly as is consistent with good work. Courses are of two kinds, formal and informal.

a) The *formal* course furnishes a systematic and progressive presentation of the subject in a given number of lessons (cf. § 6, *n*). Each lesson contains: (1) full directions for study, including references to the textbooks by chapter and page; (2) necessary suggestions and assistance; (3) questions to test the student's methods of work as well as his understanding of the ground covered. After preparing for recitation the student writes his answers to the questions and mails them to the instructor, together with any difficulties which may have arisen during his study. This recitation paper is promptly corrected and returned. In like manner every lesson is carefully criticized by the instructor and returned, so that each student receives *personal guidance and instruction* throughout the course.

b) The *informal* course is designed for students who are pursuing studies of an advanced nature. The course is usually arranged between instructor and student to meet the particular needs of the latter. The formal lesson sheet is dispensed with, but the course is carefully outlined by the instructor, and the student is required to present satisfactory evidence that the work is being properly done. This evidence may consist of a number of short papers on special themes, a thesis covering the whole work, or it may partake rather of the nature of ordinary correspondence.

Courses are *formal* when not otherwise indicated.

4. **Admission.**^{*}—(a) No preliminary examination of proof of previous work is required of applicants for correspondence courses. Before matriculating or registering a student, however, the University does require certain information called for on the formal application blank, and reserves the right to reject applicants, or to recommend other courses than those chosen, if the data furnished on the blank justify such action. If the applicant is rejected, or the substitution recommended is not accepted by the student, all fees are refunded. The application blank will be supplied upon request. *It should, in every case, accompany the fee for a new course.*

b) A correspondence student whose standing in one of the Colleges or Schools of the University has not been definitely determined is ranked as an *unclassified student*.

5. **Recognition for Work.**—(a) A certificate is granted for the satisfactory completion of the recitation work in any major or minor course.

b) Admission credit is given for courses covering college entrance requirements, which are satisfactorily completed and passed by examination.

c) Credit toward a Bachelor's degree (cf. § 6, *b*, 1) is given for courses of a college grade satisfactorily completed and passed by examination.

d) If the student has a record of residence work in the University, credits gained from correspondence courses are immediately transferred to that record; if not, they are held in the Correspondence-Study Department until the student secures such a record.

e) See also Regulations *a*) and *b*).

6. **Regulations.**—(a) The University of Chicago grants no degree for work done wholly in absence. A *minimum* of nine majors (one year's work) of resident study at the University of Chicago is required of everyone upon whom any degree is conferred.

b) Correspondence courses are accepted as meeting the study requirement for the different degrees as follows: (1) The candidate for a Bachelor's degree (A.B., Ph.B., or S.B.) may do eighteen of the required thirty-six majors of college work, by correspondence. (2) The candidate for the Master's degree (A.M., Ph.M., or S.M.,) may not offer correspondence work for any of that required for

^{*} If the student later comes to the University, he must satisfy admission requirements (see *Circular of Information of the Colleges*, pp. 8 ff.).

this degree, inasmuch as the maximum resident time and study requirement for this degree (nine months and nine majors) is at the same time the minimum requirement for any degree. (3) The candidate for the Doctor's degree (Ph.D.) should consult the head of the Department in which his work lies before choosing correspondence courses *for credit*. While it is permissible to do one-third of the work required for the degree by correspondence, very few nonresident students command the necessary library or laboratory facilities for graduate study.

NOTE.—The University of Chicago's Bachelor degree, or its full equivalent, is prerequisite for admission to candidacy for a Master's or Doctor's degree. If a student presents an inferior degree he can make it equal to the University degree by means of correspondence courses and thus be free to devote his entire time in residence to graduate work (cf. § 6, a).

c) A student may begin a correspondence course at any time in the year.

d) A student will be expected to complete any course or courses *within one year from the end* (i. e., March 23, June 23, September 23, December 23) of the quarter in which he registers.

e) A student who, for any reason, does not report either by lesson or by letter within a period of ninety days, may thereby forfeit his right to further instruction in the course.

f) Extension of time will be granted: (1) *for a period equal to the length of time which a correspondence student spends in resident study at the University of Chicago*, providing due notice is given the secretary and the instructor both at the beginning and the end of such resident study; (2) *for one full year from the date of expiration of the course*, if, on account of sickness or other serious disability, the student has been unable to complete the course within the prescribed time (cf. § 6, d), providing (a) he secures the consent of the secretary and his instructor, and (b) pays a fee equal to one-fourth of the original tuition fee for the course. Private arrangement for extension of time between the student and his instructor cannot be recognized by the Department.

g) In order to secure credit for a correspondence course, the student must pass an examination on it at such time as is most convenient to himself and his instructor, either at the University or, if elsewhere, under supervision which has been approved by the University.

h) During an instructor's vacation a substitute will be provided, or the time for completing the course will be extended.

i) The fee for matriculation in the University (\$5) is required once, at the time of first registration, of each one who has not matriculated in the institution either as a residence or a correspondence student. The fee is general for the whole University.

j) No fee is refunded on account of a student's inability to enter upon or continue a course.

k) The matriculation fee will not be refunded to a student whose application has been accepted (cf. § 4, a).

l) The student must forward with each lesson, postage (or, preferably, a stamped, self-directed envelope) for return of same.

m) A student will be required to pay for but one major of a double major (DMj) course (e. g., course 1 in Latin, Plane Geometry, etc.) at a time, unless he applies for both majors.

n) Ordinarily, a major consists of forty, and a minor of twenty lessons; but there may be variations from this number in order to accommodate the work to the requirements of a particular course. Each course represents a definite amount of work (cf. § 3), the number of lessons into which it is divided being incidental.

o) A course announced as a major may not be taken a minor at a time.

p) Each correspondence course is equivalent to the corresponding residence

course, and commands credit unless definite statement is made to the contrary (cf. § 5).

g) All informal courses are majors except when otherwise indicated.

7. **Expenses.**—(a) All fees are payable in advance

b) The matriculation fee is \$5 (cf. § 6, i); the tuition fee for each minor course is \$8; for one major course, \$16. If a student registers *at the same time* for two major courses the tuition fee is \$30; for three major courses, \$40. No reduction is made for minor courses taken simultaneously. A student registering for English Theological Seminary courses will pay the matriculation fee, \$5, and \$3 for each course taken. The tuition fee includes payment for the instruction sheets received. Textbooks which cannot be borrowed (cf. § 10) must be purchased by the student.

c) The student is required to inclose postage for the return of the lesson-papers (cf. § 6, l).

d) Money should be sent in the form of postal or express order or New York or Chicago draft, made payable to the University of Chicago. The Chicago clearing-house charges exchange on all other forms of remittance—15 cents on sums up to \$50.

8. **Method of Registration** (recapitulated).—(a) File with the Secretary of the Correspondence-Study Department a formal application for *each* course desired. The required application blank will be furnished upon request (cf. § 4, a).

b) *Forward with the formal application the necessary fees:* (1) \$5 for matriculation, if not matriculated in the University (cf. § 6, i); (2) \$8 for each minor course, or \$16, \$30, or \$40, according as one, two, or three major courses are applied for; (3) an additional fee for certain courses in Physics, Chemistry, Zoölogy, Botany, and Bacteriology.

9. **Awards.**—(a) Scholarships.¹

CLASS A.—Three scholarships, each yielding tuition in residence for one quarter (\$40), are awarded annually on April 1 to the three students who have begun, satisfactorily completed, and passed by examination the *greatest number* of major correspondence courses, but at least four during the preceding twelve months. If two or more persons finish the same number of majors, the Scholarships are awarded in the order of the dates of the last examinations, beginning with the earliest.

CLASS B.—A scholarship yielding tuition in residence for one quarter (\$40) is awarded for *every four* different major correspondence courses, dated as beginning April 1, 1904, or later, which a student satisfactorily completes and passes by examination.

b) The *University Record* is sent for one year to every correspondence student who registers for one or more major courses. If the same student registers again after an interval of twelve months, he is entitled to the *University Record* for another year.

10. **Books, etc.**—Textbooks, maps, etc., which are recommended for use in the various courses may be obtained through the University of Chicago Press, Chicago. Estimates and prices will be furnished on application. *In exceptional cases* some of these books may be borrowed from the University Library. Applications for loans should be addressed to the Librarian of the University of Chicago.

11. **Lecture-Study.**—Attention is called to the special circular relative to lecture-study work, which may be obtained on application.

¹ Scholarships are good for any quarter. Two minors are equivalent to one major. English Theological Seminary courses are excluded from competition.

IV. COURSES OF INSTRUCTION

I. PHILOSOPHY AND EDUCATION

1. Ethics.—An introductory course intended (1) to familiarize the student with the main aspects of ethical theory, and through this (2) to reach a method of estimating and controlling conduct. The main divisions of the course are: (a) the general nature of moral conduct; (b) the psychology of obligation, conscience, responsibility, and freedom; (c) an historical and critical study of the various standards of estimating conduct with special attention to Mill, Spencer, and Kant. Mj. ASSOCIATE PROFESSOR MOORE AND DR. ASHLEY.

2. Logic.—This course will cover practically the same ground as Course 3 in residence. The aim will be (1) to familiarize the student with logical processes; (2) to afford training in careful and critical habits of thought; (3) to provide a substantial foundation for subsequent work in philosophy. The topics which will be considered are those usually included in a general survey of logic, such as the concept; the various forms of judgment; deductive reasoning, including syllogisms and fallacies; inductive reasoning, including methods of inductive inquiry; the hypothesis; inductive fallacies, etc. Stress will be laid on the functional aspect of thought-processes, and attention will be called to certain underlying psychological principles. While "Elementary Psychology" is a helpful preliminary the course may be taken with profit by those who are prepared for thorough study. The work will consist in the study of one or two standard textbooks, which will be supplemented as occasion requires by exercises and discussions. Mj. DR. ASHLEY.

3. Greek and Mediaeval Philosophy.—This course is designed (1) as a survey of the history of thought, considered in its relations to the sciences, to literature, and to social and political conditions, and (2) as an introduction to philosophy through a more careful study of some of the most important systems. Special attention will be given to the study of the more important dialogues of Plato and to Aristotle's *Ethics*. Mj. PROFESSOR TUFTS AND DR. WRIGHT.

4. Modern Philosophy.—Descartes to Hume, with special study given to Descartes' *Meditations*, Locke's *Essay*, Berkeley's *Principles of Human Knowledge*, and a portion of Hume's *Treatise on Human Nature*. Mj. PROFESSOR TUFTS AND DR. WRIGHT.

5. Introduction to Kant.—Watson's *Selections* and Mahaffy and Bernard's editions of *The Critique of Pure Reason*, and *Prolegomena*, will be made the basis of the work. The course will be opened with a brief study of the thought of Leibnitz, for which Dewey's *Leibnitz* will be used. This will be followed by a brief outline of Kant's early development, and a detailed study of the more important portions of *The Critique* as found in Watson's *Selections*. Prerequisite: course 4, or its equivalent. Mj. PROFESSOR TUFTS AND DR. WRIGHT.

6. Movements of Thought in the Nineteenth Century.—The course is a continuation of the history of modern philosophy, but is less technical and covers a wider field than the philosophical literature. A study of Rousseau will lead up to a rapid survey of Kant and the immediately succeeding German philosophers through Hegel. From them a return will be made to French thought of the time of the Revolution, then passing back to Goethe and then to England, where the Lake Poets and Carlyle will be passed in review, with corresponding review of Emerson and the American Transcendentalists. Finally, the relation of the natural and exact sciences and modern art, as well as the modern psychology to the present trend of thought, will be discussed. This course will necessarily be superficial, touching only upon the important moments in the development of thought during this century. Prerequisite: two of the three courses 3-5. Mj. PROFESSOR TUFTS AND DR. WRIGHT.

7. Educational Psychology.—A study of the fundamental psychological processes in their bearings upon educational problems. The changes which these processes undergo in the different "Stages of Development," the essentially *social character of experience and education*, the "Recapitulation" and "Culture Epoch" theories of the curriculum are important divisions of the course. Mj. ASSOCIATE PROFESSOR MOORE AND DR. ASHLEY.

8. The History of Education.—This course covers in outline the history of education from savagery to the present time. The subject is presented in such a way as to enable the student (1) to gain clear conceptions of the relations of the ideals of an age to general industrial and social conditions; (2) to discover the successive steps in the development of educational theory and practice; and (3) to get a rich background for the evaluation of the various factors in the problems which command attention today. Emphasis is placed upon great movements rather than upon individuals. Eminent philosophers and educators are considered, but they are treated with reference to the movement to which they have contributed. Mj. DR. DOPP.

9. A Comparative Study of the School Systems of Germany, England, and the United States.—The course will trace the historical development of the existing systems of elementary and secondary education, with especial emphasis upon the characteristic ideals that have differentiated them, and upon present tendencies. Mj. PROFESSOR BUTLER.

10. Problems in Secondary Education.—The course will discuss education as training for social efficiency; the intellectual, social, physical, and moral elements in education; adolescence; the high-school curriculum; handicrafts in secondary education; electives; the extension of the high-school course by the addition of two years; the school and the community; "the many-sided interest;" on sending boys and girls to college. The student will be expected to make a study of schools in his neighborhood and to make reports upon these schools, in relation to the general topics studied. Mj. PROFESSOR BUTLER.

11. Elementary School Methods.—History, nature-study, and mathematics will be considered in this course with reference (1) to the principles involved in selecting the subject-matter which is most valuable for primary, intermediate, and grammar grades; and (2) to methods of teaching which provide an opportunity for the full use of both body and mind. Typical modes of activity, such as dramatic play, modeling in sand and clay, drawing, painting, excursions, field-trips, experimental work, illustrative and real constructive work, and language, will be considered as means of providing first-hand experience which the child needs in order to understand the subject-matter which is presented in the form of symbols. Mj. DR. DOPP.

12. Social Occupations in Elementary Education.—This course is designed to meet the needs of those supervisors, principals, and teachers who are attempting to make room for practical activity as a regular feature of elementary education. It aims (1) to afford an insight into the principles of selection by means of which the educational value of the various occupations may be tested; (2) to present the most fundamental features in the development of social occupations among Aryan peoples; (3) to show the relation of the child's psychical attitudes to the serious activities of the race; (4) to indicate what modifications of the serious occupations of life that are introduced into the school are demanded by a recognition of differences due to (a) natural environment, (b) social needs, and (c) psychical attitudes; (5) to make a practical application of the results of this course to the work in primary, intermediate, and grammar-school grades; (6) to help the teacher gain information regarding the literature of the subject and the nature of the materials and apparatus required. Mj. DR. DOPP.

13. Primitive Arts as Educational Means.—This course treats of such typical arts as the dance and pantomime, the festival, music, poetry, the graphic and the plastic arts with reference to (1) their genesis, growth, and differentiation; (2) their practical, intellectual, social, and aesthetic values; and (3) their significance in elementary education. Mj. DR. DOPP.

14. General Course in Child-Study.—The object of this course is to acquaint students with the main typical problems of child-life attacked by investigators; with the methods of collecting, standardizing, and presenting data; and to furnish a review of the most important contributions in the light of recent ethnic, social, and psychological disciplines. Mj. DR. MACMILLAN.

SCHOOL OF EDUCATION

15. An Introduction to Kindergarten Theory and Practice.—The aim of the course will be (1) to make a critical study of Froebel's means of development,—

his materials, songs, games, etc.; (2) to offer a preliminary study of children's imagery, interests, habits, etc.; (3) to illustrate Froebel's anticipation of the more recent child-study movement; and (4) to show the relation of Froebel's ideals to those of some of the earlier educational reformers. Mj. MRS. PUTNAM.

16. Froebel's Educational Ideals.—This course aims to trace the evolution of educational ideas that were organized into a working system by Froebel, to examine the theoretic side of that system through a study of the *Education of Man*, the *Pedagogics of the Kindergarten*, and *Mother Play Book*, and to study the relation of these theories to present educational thought. Mj. MISS PAYNE.

17. The Training of Children (for Mothers).—The special aim of the course will be to bring to the mother or teacher such practical knowledge of the fundamental laws of the growth and development of children as will be applicable in the home, beginning in the nursery and following through the periods of childhood and adolescence. It will treat of the problems of habit, interest, play, etc., and will aim to show how Froebel, the originator of the kindergarten, would make the child the chief agent in his own development, and at the same time offer a basis for an intelligent and willing obedience to law. The standards of, and reasons for, present educational methods will be discussed, that parents may judge discriminatingly of the school work which is being done by and for their children, and to determine whether it is really making for the best all-sided growth of the child. Mj. MRS. PUTNAM.

IA. PSYCHOLOGY

1. Elementary Psychology.—This course takes up the general study of mental processes. It aims to train the student to observe the processes of his own experience and those of others, and to appreciate critically whatever he may read along psychological lines. It is introductory to all work in philosophy and pedagogy, and is an important part of equipment for historical and literary interpretation. Mj. ASSISTANT PROFESSOR CARR.

2. Advanced Psychology.—This course presupposes such a familiarity with the subject-matter of psychology as may be gained from course 1 or from intimate acquaintance with Angell's *Psychology*, James's *Briefer Course in Psychology*, Royce's *Outlines of Psychology*, Titchener's *An Outline, and Primer of Psychology*, or Wundt's *Outlines of Psychology*. It may then properly be described as a continuation of the study or an *advance* upon an elementary presentation of the science with a view to further grounding in methods, and a reconsideration of some of its salient problems in the light of recent specialized studies. Mj. DR. MACMILLAN.

3. Psychology of Religion.—Three main topics will be treated: (1) The beginnings of religion in the race. Special subjects, primitive custom, ritual, taboo, sacrifice, prayer, animism, magic, myth; (2) the beginnings of religion in the individual, involving a study of adolescence, the types of religious experience, such as conversion and gradual growth; revivalism in the light of the psychology of suggestion compared with the educational process; (3) analysis of mature religious consciousness with reference to the nature and place of religious emotion and the character and function of religious ideas or concepts. Prerequisite: course 1 or its equivalent. Mj. DR. AMES.

II. POLITICAL ECONOMY

1. Principles of Political Economy.—

A. This course aims to familiarize the student with the main conditions leading to the development of our present industrial system, and to explain the general economic laws governing the production, consumption, exchange, and distribution of wealth. Mj.

B. In this course the concrete economic problems of the day are discussed in the light of the general principles established in course A. Among the subjects treated are the following: Money and banking; protective tariff; monopolies and trusts; trade-unionism and labor legislation; socialism; government control of railroads; and taxation. Mj. ASSISTANT PROFESSOR HOXIE, MR. KENNEDY AND ASSISTANT.

NOTE.—A and B are equivalent to Courses 1 and 2 in residence and are required of all candidates for a degree in the College of Commerce and Administration, as well as for advanced work in Economics. Standard textbooks are used as a basis of study.

2. Theory and History of Banking.—This course is the equivalent of Course 52 in residence. It will make a study of the functions of a bank and of the principles governing note issue, deposit currency, loans and discounts, reserves, clearing-houses, the relation of banks to the government, branch banking, and exchange, and of other related topics. Much of the above study will be made inductively through a careful survey of the history and present status of banking, first, in England, France, Germany, Scotland, and Canada; and second, in the United States, including the First and Second Banks of the United States, state banks, and the national banking system. Special attention will be paid throughout the course to proposed modifications of the national banking system of the United States. Mj. PROFESSOR LAUGHLIN AND MR. STEPHENS.

3. Money.—An examination of the principles of money, whether metallic or paper, coupled with a historical study—chiefly in connection with the experience of the United States, as a means of putting the principles into practice. Mj. PROFESSOR LAUGHLIN AND MR. PRIMM.

4. Insurance.—This course will aim to cover those aspects of life insurance important to the practical business man. The history and theory of insurance; the various forms of organization; theory of rates; the different combinations of contracts; loan and surrender values; dividends; distribution periods, etc., will be examined. Mj.

5. Trusts.—A study of the causes which have led to the movement towards industrial combinations, the problems arising out of this movement, and the various plans for meeting these problems. Mj. DR. WRIGHT AND ASSISTANT.

6. Trade-Unionism and Labor Legislation.—An historical and comparative study of trade-unionism and labor legislation in the United States and foreign countries. Among the topics treated in this course are the following: causes of the formation of trade-unions; nature of trade-union organization; relations of trade-unions with employers—collective bargaining, strikes, boycotts, lockouts, arbitration, conciliation, etc.; trade-union policies—minimum wage, normal day, apprenticeship system, etc.; legal status of trade-unions; factory legislation; employers' liability; workingmen's insurance. Mj. ASSISTANT PROFESSOR HOXIE AND MR. KENNEDY.

7. Problems in American Agriculture.—This is a study of modern farming, especially with reference to its organization on a scientific and economic basis. The subjects treated include: the place of agriculture among industries; movements of rural population—to the West, to other industries, from Europe; land grant and homestead policies; systems of land tenure; maintenance of soil fertility; economic production on dairy, beef, sheep, grain, cotton, grass, fruit, poultry, and truck farms; transportation of farm products; the agricultural market; competition of other countries; price movements of farm products; agriculture and the state; co-operation in agriculture; the farmer's ideal. This course will appeal to prospective and progressive farmers and to teachers and others interested in a study of practical agriculture. Mj. ASSOCIATE PROFESSOR HILL AND MR. EYERLY.

8. Modern Socialism.—An outline study of the nature and theory of socialism and of the organization and methods of present day socialist parties. Emphasis will be placed on the causal study of socialist belief and methods. Mj. ASSISTANT PROFESSOR HOXIE AND ASSISTANT.

III. POLITICAL SCIENCE

1. Civil Government in the United States.—This course is an analysis of the structure and working of government in the United States, with some examination of the historical development of existing forms. Mj. ASSOCIATE PROFESSOR MERRIAM.

2. Political Parties.—In this course the organization and methods of action of political parties in the United States are considered. The various types of primaries, the legal regulation of primaries, the organization and procedure of conventions, the conduct of the campaign, the organization of party machinery, the workings of the organization, the function of parties, are the principal topics discussed. Mj. ASSOCIATE PROFESSOR MERRIAM.

3. Comparative Politics.—

A. *Comparative National Government*.—This course is a comparative study of the systems of government in the leading nations of the world. Particular attention will be given to Germany, France, Great Britain, and the United States, with incidental reference to other countries presenting features of especial importance. The structure of the governments, the constitutional functions of the various departments, and the actual workings of the systems will be examined. Mj.

B. *State Governments in the United States*.¹—This course presents a comparative study of the structure and functions of the governments in the various states of the Union. Qualifications for suffrage, the organization and powers of the legislative, executive, and judicial departments, the amendment of constitutions, and the leading tendencies in state administration are discussed. Attention is also given to the historical development of these features of state government. Mj.

C. *Municipal Government*.—This course is a comparative study of the modern municipality, American and European, in its legal, constitutional, and administrative aspects. Special consideration will be given to the questions of municipal home rule, municipal ownership, and municipal politics in leading cities of Germany, France, England, and the United States. Prerequisite: course 1 or its equivalent. Mj. ASSOCIATE PROFESSOR MERRIAM.

4. *Elements of International Law*.—A study of the rules observed by civilized nations in their relations with each other. The course includes a general consideration of the history and development of international law and a more detailed study of the subject in its three fundamental divisions of peace, war, and neutrality. Some of the topics treated are the nature, sources, and divisions of international law; the intervention of one nation in the affairs of another; the rights and duties of nations in connection with property; the extent and nature of a nation's jurisdiction over its territory, subjects, and public and private vessels; the rights and duties of diplomacy; modes of warfare; recognition of belligerency; effect of war on treaties; rules of war on land and sea; rights and duties of neutral states; blockade; contraband of war; etc. The course is not strictly technical in character, and should prove of value to those desiring a better understanding of current international affairs, as well as to lawyers and teachers of history and political science. The work will be based on a standard text, supplemented by a book of cases on international law. Mj. ASSOCIATE PROFESSOR HATTON.

NOTE.—Related courses will be found under Departmental Nos. II, IV, and VIA.

IV. HISTORY

ACADEMY

1. Outline History of Antiquity to 337 A. D.—

A. *Oriental and Greek History to 146 B. C.*—This includes a general narrative and descriptive history of Greece to the Roman conquest, with a brief introductory sketch of the oriental nations that especially influenced Greek civilization. Mj.

B. *Roman History to 337 A. D.*—This course aims to give the student a general view of Roman history from the early Republic to the establishment of the later Empire in the fourth century, and pays special attention to the government and institutions of the latter as a basis for an intelligent study of the mediaeval period. Mj. MISS KNOX.

NOTE.—A and B together satisfy the entrance requirement in history.

COLLEGE

2. *History of Antiquity to the Fall of the Persian Empire*.—In this course the history of the nations of the ancient East—Babylonia, Egypt, Assyria, Syria, Israel, etc.—is studied in its development from the beginnings of organized political life to the fall of the world-empire of Persia. A large amount of reading is expected of students. Mj. MISS KNOX.

3. *History of Greece to the Death of Alexander*.—This course presupposes a general knowledge of the external facts of Greek history (course 1A), and undertakes

¹ Not given during 1908-9.

to conduct the student into an investigation of the underlying principles and forces which condition the outward events. It is intended for those who wish to go thoroughly into the subject, and are willing to give their time and thought to it. Mj. MISS KNOX.

4. **History of England to the Accession of the Tudors.**—Early Britain, its Romanization, the settlements of the invading German tribes, the struggle for supremacy, the union of England under Wessex, the Norman Conquest, the struggle of the people for constitutional rights, civil and foreign wars, and the beginning of the Renaissance in England, will be studied. Mj. MISS KNOX.

5. **England from Henry VII to the Present Time.**—Special emphasis will be placed upon the history of the Reformation, the struggle between king and parliament, English society and civilization, colonial expansion and the growth of democracy in the nineteenth century. Mj. MISS KNOX.

6. **Outline History of Mediaeval Europe (350-1500).**—The invasion and settlement of the barbarians, the revival of the empire, the growth of the papacy, and the struggle between those two, Mohammed and his religion, the Crusades, the rise of nationalities, mediaeval institutions, and the Renaissance, will be studied. Mj. MISS KNOX.

7. **Outline History of Modern Europe (1517-1825).**—The principal topics treated are: the Reformation, the religious wars; the struggle for constitutional liberty in England; the ascendancy of France under Louis XIII and Louis XIV; the rise of Prussia, England's colonial supremacy; and the era of the French Revolution and Napoleon. While the primary object is to give the student a knowledge of the facts, emphasis also will be placed upon the underlying principles, and upon causes and effects. Mj. MISS KNOX.

8. **Europe from 1517 to 1648.**—This course is a study of the causes, events, and results of the Reformation in Europe. Much attention will be given to the political, social, and economic phases of the movement, the inseparable religious questions being discussed only in so far as necessary to an understanding of the period. Mj. MISS KNOX.

9. **The French Revolution and the Era of Napoleon.**—The ground will be cleared for the history of the period by a careful study of the institutions of the Old Régime, in which the remoter causes of the Revolution will be discovered. A consideration of the more immediate causes and the attempts at reform will introduce the Estates General. The Revolution ran through three periods, which answer to the National Assembly, the Legislative Assembly, and the Convention, to the extreme of a Red Democracy. Three more periods, corresponding to the Directory, the Consulate, and the Empire, see France return to a military absolutism under Napoleon. The greatest emphasis will be laid upon the institutional changes induced by the French Revolution, and attempt will be made to show the constructive work of the Revolution and of Napoleon. Its importance as one of the greatest generic events of the world's history will give the course a significance wider than France alone. It is desirable that the student be familiar with the outlines of modern European history. Mj. ASSOCIATE PROFESSOR THOMPSON.

10. **Europe in the Nineteenth Century (1815-1900).**—The following topics indicate the scope of the course; the attempt to govern Europe according to the reconstruction of 1815; the agitation for popular government in France, Italy, and Germany; the revolutions of 1830 and 1848; France under Napoleon III; the growth of German and Italian unity; the establishment of the German Empire, of the dual system in Austria-Hungary, and of the Third French Republic; national development and international relations since 1870. The course presupposes an outline knowledge of the French Revolution and the Napoleonic epoch. Students who have not recently studied this period will be expected to prepare themselves by a careful reading of some manual, such as J. H. Rose's *The Revolutionary and Napoleonic Era*, or H. Morse Stephens' *Revolutionary Europe*. Mj. DR. WARREN.

11. **Outline History of Civilization.**—This course consists of two majors, each containing twenty lessons. The first major begins with the History of Greece and follows the various phases of development through Roman history to the rise of the

German Empire in the early part of the Mediaeval period. The second major treats of the later Middle Ages, of the Renaissance, and of modern times till close upon the French Revolution. In each division the study will proceed mainly on the four lines: (1) government in its connection with political and constitutional history; (2) social life as it is shown in the family relations and the attitude of the classes toward each other; (3) economic progress, particularly with regard to cultivation, commerce, and communication; (4) higher culture and art. The course is planned with the purpose of developing the taste of the student for careful, comprehensive reading, cultivating his reasoning, and broadening his view of both history and life. Acquaintance with the facts of history is presupposed. The student will be expected to do a great deal of reading, and should have access to a rather well-equipped library. DMj. DR. WERGELAND.

12. Chief Features of the Progress of Civilization in the Nineteenth Century.

—This course affords a rapid survey of the causes which have led to the vast enlargement of ideas and scope of life witnessed during the century just closed. The causes are many, and varied, but, for the sake of comprehensiveness, may be grouped under three headings: (1) *political* changes during and after the French Revolution, such as the growth of public liberty, the recognition of the rights of the individual, the prevalence of popular representation, the struggle against disqualification, whether social, economic, or religious; (2) *social* changes, manifested in the leveling of class-distinction, the rise to prominence of a rich middle class, the popularizing of the church, the growth of brotherhood, the prominence of public opinion, the enlightenment of the masses; (3) *economic* changes, such as the development of material resources, the growth of capitalistic enterprise, the claims of labor, increase of transportation, the development of a world-market, investigation into the cause and effect of commercial disturbances, and many others; all in connection with, or parallel to, the growth of science, the spread of education and freedom of thought, and the development of methodical inquiry. The course is divided into two majors, the first being concerned more with political changes, the second with the social and economic phases of development. The course will be better appreciated by those who have taken course 11, "Outline History of Civilization," though it can be satisfactorily pursued by those who have not had that course. Access to a well-equipped library is important, although not imperative to the success of the work. DMj. DR. WERGELAND.

NOTE.—The courses in American History fall into three groups: first, an outline course (13); second, a series of four courses (14-17) covering, in a more thorough manner, the entire field; third, several specialized courses on selected topics or periods (18-20). In the second group (courses 14, 15, 16, and 17) each course is divided into two minors which may be taken separately. Students are advised, however, to take the courses as majors. The best way is to take the courses in sequence. This method will greatly economize the expenditure for books, since successive courses require the same textbooks to some extent. Graduate credit may be obtained in courses 14, 15, 16, and 17, by doing additional advanced work under the direction of the instructor.

GROUP I

13. Outline History of the United States from Colonization to the Present Time.

—This course corresponds to Course 3 in residence. Colonial history will be considered very briefly, while the period from 1763 to Reconstruction will be treated much more in detail. An attempt will be made to get acquainted with the authorities in American history, and hints as to methods of presenting the subject will be offered. The course is intended to furnish a pattern for high-school work, except that much more reading will be done. It will be especially helpful to high-school teachers of American history. Mj. MISS KNOX.

GROUP II

14. Colonial Period (1492-1763).—

A. *Discovery and Colonization.*—The course deals with the American aborigines, the causes and motives leading to the discovery of America, the voyages and journeys of the discoverers, the claims arising from these explorations, the growth of geographic knowledge, and the founding of the English, French, Spanish, Dutch, and Swedish Colonies. M.

B. Colonial Institutions and History.—This course begins with a study of the political institutions of the American colonies. English colonies receive most attention, but those of other nations are also considered. The chief events of colonial history are then considered, with especial reference to the relations between the English colonies and the mother country. The course concludes with a survey of the struggle for supremacy in North America, ending with the final triumph of the English in the Seven Years' War. M. DR. WARREN.

15. The Formation of the Nation (1763-1789).—

A. The American Revolution (1763-1783).—The following topics show, substantially, the content of the course: the territorial, political, and economic condition of the English colonies in 1763; the new policy of the English government; the development of colonial opposition; the constitutional and philosophical arguments on both sides; the beginning of hostilities; the Declaration of Independence; the progress of the war; Congress as a governing body; the Loyalists; French and Spanish intervention; Washington's triumph; the preliminaries and terms of peace of 1783. M.

B. Confederation and the Constitution (1783-1789).—The following topics are treated: the results of the Revolutionary War; the government under the Articles of Confederation; the organization of the Western territory; interstate controversies; problems of diplomacy and foreign trade; violations of the treaty of peace; paper money; the Shays Rebellion; the Constitutional Convention; analysis of the Constitution; the process of ratification. M. DR. WARREN.

16. The Growth of the Nation (1789-1861).—

A. Foreign Politics and National Expansion (1789-1829).—Beginning with the organization of the national government, the course deals with the policy of the Federalist party in foreign and domestic politics and the rise of the Democratic opposition. The broad and strict constructions of the Constitution are carefully studied. Further topics are the fall of the Federalists; Jefferson's policy; annexation of Louisiana; experiments in neutrality; and the causes, progress, and results of the War of 1812. The course concludes with a survey of the political and economic reorganization after the war, including western expansion, the Missouri Compromise, the Monroe Doctrine, and the triumph of the Jacksonian democracy. M.

B. The Strife of Sections (1829-1861).—This course opens with a study of Jackson's administration—the civil service, tariff, nullification, bank, etc. Slavery then becomes the dominant issue. The chief topics are slavery as a system; the anti-slavery movement; Texas and the Mexican War; the Compromise of 1850; the Kansas-Nebraska question; the Dred Scott case; the rise and final triumph of the Republican Party; and the consequent secession of the southern states. M. DR. WARREN.

17. Consolidation and Expansion¹ (1861-1904).—

A. Civil War and Reconstruction. M.

B. Political and Economic Centralization—The Nation as a World Power. M. DR. WARREN.

GROUP III

18. Social Life in American Colonies.—A study of the life and institutions of ante-revolutionary times as preparatory to a correct understanding of our national history. This course is based upon Lodge's *A Short History of the English Colonies in America*, with collateral reading. M. ASSOCIATE PROFESSOR SHEPARDSON.

19. Problems of the Civil War and the Reconstruction Period (1861-1881).—A study of some of the special questions, military, political, constitutional, and social, arising in connection with the Civil War and the readjustments which followed. M. ASSOCIATE PROFESSOR SHEPARDSON.

20. The Reconstruction of the Federal Union (1863-1875).—Includes the various theories held concerning the political condition of the states attempting to secede, the resumption actually accomplished under Lincoln, the policy pursued by Johnson, the intervention of Congress, and the resulting contest between the executive and legislative branches of the national government. The study closes with the final adjustment

¹ Not given during 1908-9.

of the Union through the Federal Judiciary. This course is open to graduate students only and under exceptional conditions—two of which are familiarity with the sources and access to a well-equipped library. Mj. PROFESSOR SPARKS.

SCHOOL OF EDUCATION

21. History for Primary Grades.—This course is designed for teachers in primary grades and also for supervisors and principals. It aims (1) to show the principles upon which subject-matter should be selected for the children of the lower grades; (2) to assist the teacher in outlining a course of study; (3) to give practical help in methods of presenting subjects to children; (4) to show the relation which a course of study in history should bear to the social occupations of the school. The course treats of the following topics: primitive industrial and social life; local history; civics; constructive work; children's literature. Students who are teaching in primary grades may modify their work to make it of practical assistance in their own schools. The course covers the ground of Course 2 in residence. Mj. ASSOCIATE PROFESSOR RICE.

22. Teachers' Course in American History.—This course is intended for teachers in the upper grades of the elementary schools. It gives a brief study of colonial history and of the Revolutionary war, and a fuller treatment of the period of westward expansion. The effects of geographical environment upon occupations and of occupations upon social life and government are emphasized. The course corresponds to Course 3 in residence. Mj. ASSOCIATE PROFESSOR RICE.

VI. SOCIOLOGY AND ANTHROPOLOGY

SOCIOLOGY

1. Introduction to Sociology.—A study of the phenomena of social life; the basis of society in nature; the social person; social institutions; and social psychology, order, and progress. The course is designed to give an introduction to theoretical and practical sociology, and to systematize the reading, observation, and thinking of advanced students. The order of thought will be that of Henderson's *Social Elements*, and bibliography will be added according to the need of each student. Mj. DR. MACLEAN.

2. Introduction to the Study of Society.—This course is designed to afford a synthetic view of social phenomena, and to furnish the student with a scientific method for the study and correct understanding of ordinary human association. Considerable attention will be paid to local studies as a means of amplifying the text. The aim is to have the course serve as an introduction to the special social sciences. Mj. DR. MACLEAN.

3. Elements of Industrial History.—The aim of this course is to acquaint the student with the salient facts of American industrial history and to furnish a foundation for those who wish to do further work in economics or sociology. Selected industries will be studied in detail and their evolution discussed. A course for practical people as well as for students. Mj. DR. MACLEAN.

4. Social Debtor Classes.—A course for practical social workers and supporters of social amelioration. As the starting-point, is taken the particular work in which the student is engaged, and an attempt is made to discuss various forms of preventive and constructive social work from the standpoint of the relief visitor, city missionary, alienist, contributor, or lay student, as the case may be. Texts are chosen with a view to the reader's special needs, and illustrations are based upon his local, county, and state institutions. At least one text on theoretical sociology is read. The chief aim of the course is to give occasion for the reader to analyze, classify, and describe his own environment and his own experience and observation. Mj. DR. MACLEAN.

5. Rural Life.—This course aims both to give a general survey of the conditions and relations that characterize the rural population as a whole, and also to make a special study of typical rural families with reference especially to the nature of their work, the character of their homes, and the social influences of the community life.

The various agencies to improve the means of communication, the homes, the schools, the church, and the general well-being, will be emphasized. Mj. PROFESSOR HENDERSON AND MR. EYERLY.

6. Contemporary American Society.—A general survey of social conditions in the United States, dealing with the character and distribution of population, religious divisions, economic groupings, the educational system, the press, political machinery, etc. On this basis certain generalizations as to influences now at work, the social ideals of various classes, etc., will be considered. (Informal.) Mj. PROFESSOR VINCENT.

7. Urban Life in the United States.—A study of the location, growth, material arrangements, political developments, and social significance of American cities. Comparisons are made with urban conditions in English and continental cities. Such urban institutions as the press, department stores, tenements, transporting systems, "machine" politics, etc., are studied and discussed. Fiction describing city life is used for illustrative purposes. Characteristics of different cities are considered, and the function of cities in national life is analyzed. (Informal.) Mj. PROFESSOR VINCENT.

ANTHROPOLOGY

8. General Anthropology.—An introductory course treating of the origin, antiquity, distribution, and early occupations of man and of the sources of language, religion, the arts, and social relations. Mj. ASSOCIATE PROFESSOR STARR.

9. Origin of Social Institutions.—Treats of association in the tribal stage of society; the origins and relations of invention, trade, marriage, class distinctions, government, art, and the professions; and the ethnological and anthropological basis of sociology. (Informal.) Mj. ASSOCIATE PROFESSOR THOMAS.

10. Primitive Social Control.—A study of primitive juridical and political systems, and of social conventions; e.g., the family; clan; tribal and military organizations; totemism; tribal and property marks; tapu; personal property and property in land; periodical tribal assemblies and ceremonies; secret societies; medicine men and priests; caste; blood-vengeance; salutations; gifts; tribute; oaths; and forms of offense and punishment among typical tribes of Australia and Oceania, Africa, Asia, and America. (Informal.) Prerequisite: course 9. Mj. ASSOCIATE PROFESSOR THOMAS.

VIA. HOUSEHOLD ADMINISTRATION

1. House Sanitation.—This course offers a comprehensive and practical study, based on scientific principles, of the sanitary aspects of the home. Among the topics treated are the choice of building site, construction and care of cellar, drainage, plumbing, heating, lighting, furnishing, and cleaning. Mj. PROFESSOR TALBOT.

2. Foods and Dietaries.—A course in practical dietetics covering the study of the composition of foods, scientific principles of preparation, and their combination in dietaries from an economic and physiological standpoint. Mj. PROFESSOR TALBOT.

3. Administration of the House.—This course will consider the order and administration of the house with a view to the proper appointment of the income and the maintenance of suitable standards. Changes in household industries in the light of modern economic and social conditions, and sanitation, will be studied. The domestic service problem will be investigated. Mj. PROFESSOR TALBOT.

4. The Organization of the Retail Market.—An elementary course intended to familiarize the student with the machinery of trade with which the householder comes into direct contact. The following topics will be considered: the development of present methods of distribution from mediaeval forms; the present specialized system, as illustrated by selected industries, which deal with food, clothing, and household equipment; the departmental and catalogue store; and the employment agency as the means by which a distribution of domestic labor is effected. Prerequisite: nine majors (1 year) of college work. Mj. DR. BRECKINRIDGE.

5. The Consumption of Wealth.—Standards of living; necessities for life and for efficiency; comforts; luxury and extravagance; saving and spending. Organized

efforts among consumers to control production; co-operation; the Consumers' League; trade unions; legislation; municipalization. Prerequisite: nine majors (1 year) of college work. Mj. DR. BRECKINRIDGE.

6. The State in Relation to the Household.—A course intended to review relations between the householder and the public, as represented by federal, state, and municipal authority. The law requiring the head of a family to furnish support, and legislation tending to maintain the unity of the family will be considered. Regulations concerning the food supply, the materials used in clothing and furnishings, and the structure and care of the building will be studied in order to formulate the principles upon which a proper degree of individual freedom may be adjusted to the necessary amount of public control. Mj. DR. BRECKINRIDGE.

NOTE.—Students should consult instructor before registering for courses 4, 5, and 6.

SCHOOL OF EDUCATION

7. The Application of Heat to Food Materials.—This course includes (1) a study of the food principles; (2) the methods by which heat is applied to food and the effect of different temperatures on the food principles, cooking apparatus and its construction, household fuels, and their economic value; (3) combinations of foods and the development by experiment of the principles underlying proportions and methods; (4) the interpretation of common processes of food preparation, with some of the simpler principles of chemistry and bacteriology involved; (5) typical manufacturing processes, and some phases of the history and geography of food products; (6) laboratory directions and experiments. Mj. ASSISTANT PROFESSOR NORTON AND MISS SNOW.

8. The Chemistry of Foods.—A study of (1) the properties and characteristic reactions of proteids, carbohydrates, and fats, with qualitative tests for their identification; (2) separation of the food principles; (3) study of milk, water, and flour, with some of the simpler methods employed in their analysis; (4) experiments in fermentation; (5) food adulterations and household methods for their detection; (6) laboratory work. Prerequisite: one year of chemistry and course 2 or 7, or an equivalent. Mj. ASSISTANT PROFESSOR NORTON AND MISS WELLMAN.

9. The Teaching of Home Economics.—A study of the purpose of this work in the schools; its value as training; its relation to the social life of the school and of the home; the correlation with other studies in the curriculum; the relation of the handwork involved, to the science that underlies it and that grows out of it; the selection of subject-matter and the planning of courses, and their adaptation to different conditions; the planning of school laboratories, and the choosing of equipment. Prerequisite: one year of technical training in the subject. Mj. ASSISTANT PROFESSOR NORTON AND MISS SNOW.

NOTE.—Related courses will be found under Departmental Nos. II, III, VI, XVII, XX, XXII, XXIV, and XXVIII.

VII. COMPARATIVE RELIGION

1. Introduction to the History of Religion.—This course aims to conduct the student into the study of the general principles of religion and the history of the various religions of the world. It is elementary in character and is intended for all who wish to begin the study of this subject. Mj. DR. CONARD.

2. The Religion of Uncivilized Peoples.—This course surveys primitive religious customs and beliefs, noting their survivals in higher religions. In connection with the textbook, which will serve as a guide, works on North American Indians will furnish the principal material for the study. The student will review such material on other uncivilized peoples as may be available to him. For beginners. Mj. DR. CONARD.

3. Comparative Theology: The Idea of God.—This is a cursory study of the idea of God as seen in primitive myth and cult, and in the religious rites and literature of the chief historic religions. Prerequisite: course 1 or 2 or an equivalent. Mj. DR. CONARD.

VIII. THE SEMITIC LANGUAGES AND LITERATURES

AND

XLI. OLD TESTAMENT LITERATURE AND INTERPRETATION

1. Elementary Hebrew.—Includes the mastery of the Hebrew of Genesis, chaps. 1-3; the study of the most important principles of the language in connection with these chapters; Hebrew grammar, including the strong verb and seven classes of weak verbs; and the acquisition of a vocabulary of four hundred words. Mj. ASSISTANT PROFESSOR J. M. P. SMITH.

2. Intermediate Hebrew.—Includes the critical study of Genesis, chaps. 4-8, with a review of Genesis, chaps. 1-3; the more rapid reading of fourteen chapters in I Samuel, Ruth, and Jonah; the completion of the outlines of Hebrew grammar and an increase of vocabulary to eight hundred words. Mj. ASSISTANT PROFESSOR J. M. P. SMITH.

3. Exodus and Hebrew Grammar.—Includes the critical study and translation of Exodus, chaps. 1-24; a more detailed study of Hebrew grammar; an inductive study of Hebrew syntax; and the memorizing of three hundred additional words and of several familiar psalms in Hebrew. Mj. ASSISTANT PROFESSOR J. M. P. SMITH.

4. Haggai, Zechariah, and Malachi.—A course of twenty recitations, including the critical and exegetical study of these books; the lexicographical study of two hundred important words; the principles of Hebrew prophecy; a study of Hebrew syntax, especially the subjects of the tense and sentence; the Hebrew accentuation; and the memorizing of about eight hundred words. M. ASSISTANT PROFESSOR J. M. P. SMITH.

5. Elementary Arabic.—An inductive study of the elementary principles of Arabic grammar, the Arabic text of Genesis, chaps. 1 and 2, the Story of Bilgis, and the early Suras of the Qurân furnish the basis of the work. Mj. ASSISTANT PROFESSOR J. M. P. SMITH.

6. Elementary Assyrian.—The early recitations are based chiefly on the transliterated text, the others on the cuneiform. The student will learn the most common cuneiform signs, the strong verb and all classes of weak verbs, and the fundamental principles of the language. A knowledge of Hebrew is prerequisite. M. PROFESSOR BERRY.

7. Intermediate Assyrian.—This includes the reading of about four hundred lines of historical cuneiform text, with special attention to vocabulary, a further study of Assyrian grammar, including syntax, and the learning of most of the remaining cuneiform signs that are in frequent use. M. PROFESSOR BERRY.

8. Elementary Egyptian.—Study of (1) the speech of Thutmosis I to the priests of Abydos; (2) the romance of Sinuhe (transliterated from the Hieratic) in Erman's *Chrestomathy*. It includes the acquisition of the commonest signs, and the grammatical principles of the language of the classic period. Mj. PROFESSOR BREASTED.

9. Outline of Hebrew History.—A survey study of the history of the Hebrew people as presented in the Old Testament from the period of the Conquest and establishment in Canaan to the Maccabean struggle and the close of Old Testament history. The course will embrace a preliminary sketch of the patriarchal period, with a more detailed study of the Conquest, the period of the Judges, the United and Divided Kingdoms, the Exile, the revival of Judah, and the beginnings of Judaism. The bearings of prophetic activity upon the history and literature will also receive consideration. A knowledge of Hebrew is not required. Mj. ASSISTANT PROFESSOR J. M. P. SMITH.

10. An Introduction to the Old Testament.—This study embraces such points as will familiarize one with the outline features of this portion of the Bible. It will emphasize: (1) The method of preserving ancient records, (2) the method of compiling and editing those documents, (3) the historical background of the Old Testament books, (4) the literary character of each book, (5) its chief doctrinal teachings, (6) its place in the scheme of biblical revelation, and (7) the best literature with which to

pursue and solve its problems. The work will be planned on a practical basis, and will aim to give students a reasonably complete idea of the new and real advances that have been made in the last few decades in the understanding of the Old Testament. Mj. PROFESSOR PRICE.

11. Old Testament Prophecy.—The purpose of this course is to aid in securing a better understanding of the rise and development of prophecy in Israel. Some of the more important matters to be considered are: (1) the controlling ideas in the teaching of each of the great prophets; (2) the relation of the prophet and his work to the political and social movements of his day; (3) the attitude of the prophet toward the priest and priestly institution; (4) the place of prophecy in the preparation for the work of Christ. A knowledge of Hebrew is not prerequisite. Mj. ASSISTANT PROFESSOR J. M. P. SMITH.

12. Old Testament Worship.—A study of the element of worship and the institutions and literature connected with worship in the Old Testament. Special consideration will be given to such topics as: (1) the priest; (2) place of worship; (3) sacrifice; (4) feasts; (5) tithes; (6) clean and unclean, etc.; (7) the origin and character of the Sabbath; (8) the date and character of Deuteronomy; (9) the origin of the Levitical legislation; (10) the composition of the Hexateuch. Attention will be given to the characteristic ideas of the priest as distinguished from those of the prophet, and to the growth of priestly influence in Israel's religious life. A knowledge of Hebrew is not prerequisite. Mj. ASSISTANT PROFESSOR J. M. P. SMITH.

13. Isaiah and His Times.¹—The course will comprise a historical survey of the Isianic Period; an analysis of the material of the book; the occasion and purpose of its prophecies; its doctrinal teachings; and its chronological arrangement. Special attention will be given to the life of the prophet, his rôle in the development of Hebrew prophecy, and the important problems suggested by the book. Opportunity will be afforded for independent and constructive investigation. A knowledge of Hebrew is not required. Mj. DR. MODE.

Members of the Semitic Department will endeavor to arrange informal courses for students who are prepared to do work of an advanced nature, whenever possible.

IX. BIBLICAL AND PATRISTIC GREEK

AND

XLII. NEW TESTAMENT LITERATURE AND INTERPRETATION

1. Elementary New Testament Greek.—A course for beginners, presupposing no knowledge of Greek. It aims to secure, by an inductive study, the absolute mastery of chapters 1-4 of the Gospel of John, and the essential facts and most elementary principles of the language. Emphasis is placed upon the writing of exercises in Greek. Mj. DR. BAILEY.

2. Intermediate New Testament Greek.—This course is designed for those who have completed course 1, and for those who wish to review their Greek in connection with the New Testament. It comprises the thorough study of the entire Gospel of John, and the reading at sight of the first Epistle of John; also the acquisition of vocabulary and the most general principles of grammar. One who has diligently worked through this course should be able, with the aid of the lexicon, to read with comparative ease the New Testament. Mj. DR. BAILEY.

3. Advanced New Testament Greek.—For those who have a good knowledge of Greek, college graduates, and others who wish to make a special study of New Testament Greek. A thorough study of the syntax of New Testament Greek as regards the verb, and an historical and linguistic study of the entire Book of Acts. This course corresponds to residence Course 1 and is required for the D. B. degree. Mj. ASSISTANT PROFESSOR CASE.

4. Introduction to New Testament History.—An account of the rise and fall of the Jewish state from 175 B. C. to 70 A. D., with special attention to the history of the Pharisees and Sadducees, and to the Jewish social and religious life. The aim

¹ Not given during 1908-9.

of the course is to furnish an historical background for the Life of Christ. This course corresponds to residence Course 2, and is required of candidates for the D.B. degree. Mj. ASSOCIATE PROFESSOR VOTAW.

5. Introduction to the Books of the New Testament.—

A. *Life of the Apostle Paul and Introduction to the Pauline Epistles*.—The work in this course is done on the basis of a handbook, containing an outline of the life of Paul, topics for special study, with references to literature, and a brief introduction to the epistles. The aim is to prepare the student for the interpretation of the letters of Paul and for an understanding of his personality and theology. Mj.

B. *Introduction to the Gospels, Acts, and General Epistles*.—Includes the study of the occasion and purpose of each book and its general content and structure. Mj. PROFESSOR BURTON AND DR. BAILEY.

NOTE.—Either 5A or 5B may be substituted for residence Course 3, required of all candidates for the D.B. degree. Elective credit will be given for the other major.

6. The Gospel of Luke.—An inductive study leading to a mastery of the plan and development of the gospel and its fundamental teachings. The critical questions that arise and the historical background also receive attention. M. DR. BAILEY.

7. The Gospel of John.—A course developed on an inductive plan especially suited to the peculiar structure of the book. The work of the course includes: a study of the origin and character of the gospel; comparison with the other gospels; the conception of Christ herein portrayed; the discourses of Jesus; and application to present life and character. M. DR. BAILEY.

8. Constructive Studies in the Life of Christ.—The aim of the course is to enable the student to construct his own "Life of Christ" in a true historical perspective. To this end the entire gospel history will be studied in a connected way, especial attention being given to the most important political and social features of New Testament times, and to the interpretation of critical passages. Mj. DR. BAILEY.

9. Research Course in the Life of Christ.—A course designed to follow course 8, or an equivalent study of the "Life of Christ." The purpose is a thorough investigation of fourteen main topics and problems in the gospel history, such as the origin and characteristics of the gospels, the development of the religious and messianic consciousness of Jesus, the plan and the chief events of his public ministry, and the growth and crisis of the opposition to him. Use will be made of the best literature upon the subject. Papers by the student upon the several topics will be discussed by the instructor. M. ASSOCIATE PROFESSOR VOTAW.

10. The Teaching of Jesus.¹—The four gospels will be investigated as to their origin, characteristics, trustworthiness, and the manner of their use for ascertaining the teaching of Jesus. The chief ideas and characteristics in Jesus' day will be studied as the historical background to his teaching; also the development of Jesus' own religious experience and ideas, and the aim, limits, style, and method of his teaching. Then will follow topically a comprehensive, careful study of the content of Jesus' teaching. Mj. ASSOCIATE PROFESSOR VOTAW.

11. The Ethical Teachings of the New Testament.¹—The moral ideal of Jesus will be studied on the basis of the Sermon on the Mount in Matthew, supplemented by material from other portions of the gospels. The specific principles set forth by Jesus, and the application which he made of them to his own life and to the conduct of others, will be interpreted. Similarly, the moral ideal of Paul will be considered, with its principles and applications, and a comparison of Paul's ethics, with the ethics of Jesus, will be made. The teaching of the Epistle of James and other New Testament writings will be examined also. Then the applicability and the adequacy of the ethical teaching of the New Testament to present-day living—individual and social, and the relation of New Testament ethics to modern scientific ethics will be considered. Mj. ASSOCIATE PROFESSOR VOTAW.

12. The Social Teaching of Jesus.—The teaching of Jesus concerning society, the state, the family, wealth, and other social institutions. Mj. PROFESSOR MATHEWS.

¹ Registrations will be accepted after January 1, 1900.

13. The Messianic Hope in the New Testament.—Mj. PROFESSOR MATHEWS.

14. Christianity in the Apostolic Age.—While Gilbert's *Christianity in the Apostolic Age* serves as a guide, the emphasis throughout the course is laid upon the independent study of the New Testament and the importance of a thorough acquaintance with it. As far as possible the student will be led to construct his own story of the development of primitive Christianity. The study follows in the main the outline of the Book of Acts, but the Epistles are also used in so far as they reflect conditions of life and thought during the period. The aim of the course will be to give not only a correct understanding of each individual event in itself but also a just conception of this earliest period of the church as a whole. M. DR. BAILEY.

15. The Apostolic Fathers.—The course includes a study of (1) the early Christian literature ca. 95–150 A. D.; (2) problems of date, authorship, and purpose; (3) reading of the Greek; and (4) studies in theology and polity. Outlines of the literature will be provided, and reports covering the topics given above will be required. The later development of New Testament ideas and practices, as reflected in this early Christian literature will be especially emphasized. Mj. ASSISTANT PROFESSOR GOODSPEED AND DR. ROBISON.

16. Quotations from the Old Testament in the Gospels.—Involves an interpretation of the Old Testament passages on the basis of the Hebrew, of the New Testament passages in the Greek, and a comparison of the results. M. PROFESSOR BURTON AND DR. BAILEY.

X. SANSKRIT AND INDO-EUROPEAN COMPARATIVE PHILOLOGY

1. Elementary Sanskrit.—The aim of the course is to give the student a thorough grounding in the essentials of Sanskrit grammar, the principles of which are illustrated by constant translation from Sanskrit into English and from English into Sanskrit. It is designed as an introduction to the selections from classical Sanskrit in Lanman's *Reader*, which the student should then be prepared to read rapidly by himself. No attempt is made to teach comparative philology in this course. Mj. DR. CLARK.

2. Elementray Russian.—

A. After a general study of the declensions and conjugations, texts supplied with extensive notes will be taken up and mastered. Mj.

B. Continues the study of texts with review of inflectional forms. The vocabulary will be enlarged by the study of roots and suffixes. Elementary composition. Extensive syntax study. Mj. MR. HARPER.

NOTE.—These courses are eminently practical. Provisional credit is given when A is passed. It will be made permanent when B is passed.

3. Elementary Chinese.—

A. This course gives the student (1) the principal rules for pronouncing Chinese words; (2) a vocabulary of about 250 of the most common words; (3) practice in constructing short sentences in Chinese; (4) progressive exercises involving the elements of the grammar—verbs, nouns, and adjectives; (5) drill in translating short sentences from English into Chinese and *vice versa*. A Chinese elementary reader will be used in the latter part of the course. Mj.

B. Advancing on A, (1) the vocabulary will be extended to include 500 words; (2) the more difficult points of the grammar will be taken up; (3) the development of verbs will receive special consideration; (4) longer exercises in translating Chinese into English and *vice versa* will be required. A more advanced Chinese reader will be used. Mj. YINCHANG TSEUSHAN WANG.

4. Elementary Japanese.—

A. After a general survey of the history and characteristics of the language, a study of the essentials of grammar will be taken up in connection with the vocabulary of daily intercourse. From the outset drill will be given in the writing of Japanese characters. Exercises in translating simple Japanese into English and English into Japanese will be required. Mj.

B. The more difficult points of grammar will be studied, selections from the elementary reader compiled by the Japanese Department of Education will be read, and simple compositions in Japanese will be required. Mj. MR. TSUNEKAWA.

The instructors will suggest reading for further work in Sanskrit or comparative Philology.

XI. THE GREEK LANGUAGE AND LITERATURE

ACADEMY

1. Elementary Greek.—

A. White's *First Greek Book*, Lessons 1-60. These lessons include the commonest noun and adjective declensions, the Omega system of conjugation, some fundamentals of syntax, connected reading lessons epitomizing the story of the *Anabasis*, and a vocabulary of 600 common Greek words. Mj.

B. (1) White's *First Greek Book*, Lessons 61-80. These lessons include the Mi system of conjugation, reading lessons continuing the *Anabasis* story, and an additional vocabulary of 250 words. (2) the *Anabasis* of Xenophon, Book i, chaps. 1-3. These lessons call for constant review of the material studied in the *First Greek Book*. Mj. ASSISTANT PROFESSOR BRONSON.

2. Xenophon: *Anabasis*.—

A. From Book i, chap. 4, through Book ii, chap. 4, about fifty pages. Exercises in writing Greek based upon the text. Mj.

B. From Book ii, chap. 5, through Book iv, about ninety pages. Greek composition, including a topical treatment of syntax. Collateral readings in Gulick's *Life of the Ancient Greeks*, Grote's *History of Greece*, etc. Occasional tests in translation at sight. Mj. ASSISTANT PROFESSOR BRONSON.

3. Homer: *Iliad*.—

A. Books i-iii.—An introduction to the study of Homer with particular attention to prosody and peculiarities of epic dialect and syntax. Mj.

B. Books iv-vi.—In this course the literary features of Homeric study are emphasized. Mj. MR. JOHNSTON.

COLLEGE

4. Plato: *Apology* and *Crito*.—In connection with these writings Xenophon's *Memorabilia* will be read to furnish a basis for the study of the life and philosophy of Socrates as interpreted by Plato and Xenophon. Brief outline of Plato's life and works. Prose composition based on text accompanied by discussion of syntax and idioms of Plato. Mj. PROFESSOR MISENER.

5. Homer: *Odyssey*, Books v-xiii.—This course aims chiefly at enabling the student to translate Homer fluently and with appreciation. It also includes a review of Epic dialect and syntax, and a study of Homeric life and antiquities. Mj. PROFESSOR MISENER.

6. Herodotus: *Historiae*, Books vi-vii.—In this course particular attention is paid to the language and style of the author, as well as to the historical importance of the events narrated. The reading covers the Second Persian Expedition against Greece, ending at Marathon, and the Invasion of Xerxes as far as the Battle of Thermopylae. Mj. MRS. BEESON.

7. Advanced Prose Composition.—A course affording training for those who wish to renew or extend their acquaintance with the principles of the Greek language. The exercises are graded from simple narrative passages in the style of Xenophon to more difficult selections in the style of Plato and Demosthenes. In the latter part of the course an attempt is made to adapt the work to the needs and ability of the individual student. Mj. ASSISTANT PROFESSOR BONNER.

8. Demosthenes: *Philippics* and *Lysias*.—An introduction to the study of the Attic orators. Mj. MRS. BEESON.

9. Demosthenes: *De Corona*.—A study, chiefly literary, of this masterpiece of Attic oratory. Mj. MRS. BEESON.

10. Introduction to the Greek Drama.—Sophocles' *Antigone* and Aristophanes' *Clouds* are read. Attention is given to the various problems connected with these plays, to the character delineation, and the method of presentation. Collateral reading is assigned on the history of Greek drama and theater. Mj. PROFESSOR MISENER.

Members of the Greek department will endeavor to arrange informal courses for students who are prepared to do work of an advanced nature whenever practicable. Professor Shorey will occasionally guide by correspondence the work of advanced students who propose to attend the University.

XII. THE LATIN LANGUAGE AND LITERATURE

ACADEMY

1. Elementary Latin.—In these two majors is offered the full equivalent of the first year's work in Latin. Starting with the rudiments, the aim is to acquaint the student with all the regular forms and common constructions found in Caesar's *De Bello Gallico*, and to give him a large vocabulary. The first part of Book i, the Helvetian war, is read during the latter part of this course. DMj. MISS PELLETT.

2. Caesar: *De Bello Gallico*.—

A. Book ii.—This course is intended for students who have completed course 1, but who have had no other practice in translation. Special attention is given to a review of forms and syntax. Exercises in prose composition based upon the text form a part of each lesson. Mj.

B. Books iii-iv.—Continues the above. The more difficult Caesarian constructions are carefully studied, and further practice is given in prose composition. Mj.

C. Book i.—The latter part of Book i, the war with Ariovistus, is read. While forms, syntax, and prose composition continue to be studied, indirect discourse receives special attention. Students are required to change all the passages in indirect discourse to the direct discourse. M. MISS PELLETT.

3. Viri Romae.—A series of twenty lessons based upon the interesting stories of early Rome; open to those who have completed course 1 or its equivalent, and who desire to increase their vocabulary and acquire facility in reading Latin. M. MISS PELLETT.

4. Nepos.—Like course 3 in aim and prerequisites. M. MISS PELLETT.

5. Cicero: *Orationes*.—

A. *In Catilinam*, i-iv.—This course includes translation, a review of forms and of more difficult constructions, exercises in Latin composition based upon the portion of text assigned in each lesson, and the history of the period. Mj.

B. *Pro Lege Manilia* and *Pro Archia*.—Continues A and includes a careful study of the literary style of Cicero, of all historical references, and exercises in prose composition, based upon the portion of text assigned in each lesson. Especial attention is given to translating into good English. Mj. MISS PELLETT.

6. Vergil: *Aeneid*.

A. Books i-ii.—The work includes a study of prosody, word-derivation, constructions peculiar to the poets, and the more common rhetorical figures. Mj.

B. Books iii-vi.—Continues A and lays emphasis upon elegance of translation, the mythology, and the literary style of Vergil. Mj. MISS PELLETT.

7. Selections from Roman Writers.—This course will be of advantage to those who wish to become acquainted with the style of different Roman writers. Mj. MISS PELLETT.

8. Prose Composition Based on Caesar.—This course affords (1) practice in writing Latin in connected passages based on Caesar's *De Bello Gallico*, (2) a thorough review of grammatical forms and constructions found in the *De Bello Gallico*; (3) a careful study of synonyms. As the course is informal, special attention can be given to any subject in which the student is deficient. M. MISS PELLETT.

9. Prose Composition Based on Cicero.—Like course 8, using the orations as a basis. M. MISS PELLETT.

NOTE.—The courses 1-9 are intended for three classes of students: (1) those who are preparing to enter college; (2) those who wish to study Latin for their own benefit; (3) teachers of Latin who from the topics and questions in each lesson can receive suggestions for their own work, e.g., the points to be emphasized at different stages in Caesar, Cicero, and Vergil.

COLLEGE

10. Cicero: *De Senectute*.—The entire essay is read with studies in syntax and exercises in prose composition based upon the text of each lesson. M. MISS PELLETT.

11. Terence: *Phormio*.—This play, as a specimen of the highest development of Roman comedy, is carefully studied with regard to morals, composition, presentation, etc. Attention is also given to vocabulary, metrical treatment, and ante-classical forms and constructions. M. MRS. BEESON.

12. Livy.—The twenty-first book and a large part of the twenty-second, describing Hannibal's expedition against Rome up to Cannae, are read, with accompanying studies in literary style and syntax and exercises in prose composition, based in each case upon the portion of text assigned in each lesson. Mj. MRS. BEESON.

13. Horace: Odes, Books i-iii.—This course includes: commentary upon the details of each ode, syntactical, historical, illustrative, etc.; translation, analysis of thought, and general interpretation; and a study of the metrical form. A list of general topics, material for the study of which is to be found in the odes, is presented at the outset, and the student is expected to select one of these for his especial study. Mj. ASSOCIATE PROFESSOR MILLER.

14. Advanced Prose Composition.—The course offers to teachers and others an opportunity to perfect themselves in those elements of the structure of the language in which they are deficient. The exercises are graded from simple passages in the style of Caesar to more difficult extracts in the style of Cicero. Mj. ASSISTANT PROFESSOR BONNER.

15. Plautus.

A. *Captivi*.—This course will deal especially with the linguistic side of Plautus. The vocabulary and scansion will be studied and ante-classical forms and constructions noted. Good idiomatic translation will be required. M.

B. *Trinummus*.—Here the literary side will be emphasized. The course will deal especially with Plautus' style, plot, and delineation of character. As in the first minor, much attention will be paid to translation. M. MRS. BEESON.

16. Tacitus: *Agricola* and *Germania*.—In the reading of these works both their historical importance and their literary merits are brought out. The course is an introduction to the language and style of Tacitus. Mj. DR. BEESON.

17. Ovid.—Selections from the *Epistulae*, *Amores*, *Fasti*, *Metamorphoses*, and *Tristia*. The object of the course is to make a general study of the life and works of Ovid and of his place in Roman literature. (Informal.) Mj. ASSOCIATE PROFESSOR MILLER.

18. Cicero: *Epistulae*.—A study of the character and career of Cicero from the evidence afforded by the material contained in one hundred selected letters and from supplementary historical and biographical sources. The course also deals with the peculiarities of epistolary Latin and with the general subject of letter-writing in ancient Rome. Mj. DR. BECHTEL.

19. Horace: Satires and Epistles.—Selected satires and epistles are carefully read and analyzed, with particular regard to argument, character portrayal, style, and their place in literature. (Informal.) Mj. ASSOCIATE PROFESSOR MILLER.

20. Horace and Persius: Satires.—A brief review of the predecessors of Horace in the field of satire, a reading of selected satires of Horace and Persius, with a study of the characteristic features of each. (Informal.) Mj. ASSOCIATE PROFESSOR MILLER.

21. Topical Studies in the Works of Vergil.—This course presupposes a considerable familiarity with Vergil on the part of the student. It is not a reading

course, but the *Eclogues*, *Georgics*, and particularly the *Aeneid* will be the field of investigation under various topics relating to different objects of study in the works of this author. A list of topics will be presented to the student, of which the following are typical: "Vergil's Verse and Its Metrical Peculiarities;" "The Poetic Constructions in Vergil;" "Vergil's Art in the Selection and Handling of His Material;" "The Aeneas Legends and Vergil's Use of Them." The student will be expected to select a certain number of these topics and, with them in mind, to go through the works of Vergil under direction of the instructor, collect all material bearing upon them, and present his results in finished form. The instructor will at all times furnish such aid as may be necessary and will criticize the results. (Informal.) Mj. ASSOCIATE PROFESSOR MILLER.

22. Roman Belief with Reference to the Soul and the Life after Death.—This course is the study of a topic, and is based for material upon a variety of authors: Cicero's *Tusculan Disputations*, i, *De Senectute*, *De Amicitia*, *Epistulae*; Vergil's *Aeneid*, Book vi; Horace's selected odes; Ovid, Seneca, Persius, etc. (Informal.) Mj. ASSOCIATE PROFESSOR MILLER.

23. The Latin Subjunctive.—The course presents a systematic treatment of the subjunctive, according to the latest scientific theories. The development of the various uses is discussed, and all the forms found in preparatory Caesar or Cicero are classified. The student may choose to classify the forms either in Caesar or in Cicero, or in such a combination of the two as shall be equivalent in amount to either. The course is intended primarily for teachers. Mj. MISS PELLETT.

24. Training Course for Teachers.—The object of the course is to give the teacher working alone and often at a distance from authorities, an opportunity to appeal for assistance and advice along any lines connected with his teaching of Latin. Naturally there are some subjects which nearly all teachers find it profitable to take up in a somewhat formal way, e. g., pronunciation, translation, metrical reading, composition, etc. In addition to these, each teacher will have his own problems to discuss. The course is designed to meet these general and individual needs. (Informal.) Mj. ASSOCIATE PROFESSOR MILLER.

Members of the Latin Department will endeavor to arrange informal courses for students who are able to do work of an advanced nature, whenever practicable.

XIII. ROMANCE LANGUAGES AND LITERATURES

1. Elementary French.—

A. This course is designed to acquaint the student with the essentials of French grammar, to enable him to turn short English sentences into idiomatic French, and to translate easy French at sight. It will consist of progressive exercises on the elements of grammar, drill on verbs, the writing of French sentences, translation of easy French into English and the free reproduction of the French stories read. Mj.

B. Continues, reviews, and extends the work on French verbs, studies inductively the French grammar, and affords practice in French composition. Several short stories, a modern novel, and a text of modern history will be read in A and B together, and will form the basis of the grammatical work. Mj. ASSISTANT PROFESSOR NEFF.

NOTE.—A and B constitute a double major. Provisional credit will be given when A is passed. It will be made permanent when B is passed.

2. Intermediate French.—This is largely a language and drill course, and is intended to extend and complete the preceding course. It includes the reading of modern short stories and comedies, practice in composition, and especially work in French synonyms designed to increase the vocabulary. The work is largely conducted in French. Mj. ASSISTANT PROFESSOR NEFF.

3. Advanced French.—Idioms, synonyms, diction; a) systematic review of elementary French grammar; b) syntax; c) reading: Mérimée, *La chronique de Charles IX*; d) composition based on the reading. Prerequisite: course 2. Mj. MR. DAVID.

4. French Reading.—(A. Modern Novels, or B. Modern Dramas.)

A. Modern Novels.—Anatole France, *Le crime de Sylvestre Bonnard*; Honoré de Balzac, *Eugenie Grandet*; George Sand, *La mare au diable*. Criticism of the novel. Mj.

B. Modern Dramas.—V. Hugo, *Hernani*; E. Augier, *Le gendre de M. Poirier*; A. Dumas fils, *La question d'argent*; E. Rostand, *Cyrano de Bergerac*. Criticism of the drama. Prerequisite: course 3. Mj. MR. DAVID.

5. Advanced French Reading.—(A. Modern Dramas and Lyrics, or B. Modern Novels and Lyrics.)

A. Modern Dramas and Lyrics.—The work will be based on the dramas of 4 B and selections from the lyric poets, especially Chénier, Lamartine, Musset, Victor Hugo; versification; criticism of lyric poetry. Mj.

B. Modern Novels and Lyrics.—The work will be based on the novels of 4 A and selections from the lyric poets, especially Chénier, Lamartine, Musset, Victor Hugo; versification; criticism of lyric poetry. Prerequisite: course 4. Mj. MR. DAVID.

NOTE.—If A has been chosen in course 4, A of course 5 must be chosen; if B of course 4, B of course 5 must be chosen.

6. Molière and the French Comedy in the Seventeenth and Eighteenth Centuries.—Corneille, *Le menteur*; Molière, *Le misanthrope*, *Les femmes savantes*, *Les fourberies de Scapin*, and *L'avare*; Régnard, *Le joueur*; Marivaux, *Le jeu de l'amour et du hasard*; Piron, *La métromanie*; Beaumarchais, *Le barbier de Séville*. The course will include a study of the lives of the principal authors, their influence on the theater, with intensive study of the plays mentioned above and rapid reading of a few other of their prominent works. Although this is primarily a literary course, comparison will be made between the language of these writers and that of to-day, and the more unusual constructions will receive consideration. The work will be conducted wholly in French. Prerequisite: The preceding 6 majors of the Junior College or their equivalent. Mj. MR. DAVID.

7. Readings in Old French Literature.—Recognizing the growing importance of some historical knowledge of French as a part of the teacher's equipment, and of old French as an indispensable language in research work in modern literatures, this course aims to provide a reading knowledge of the language. It may be taken to advantage by students looking forward to advanced studies in residence. A good knowledge of modern French is presupposed, and some knowledge of Latin and German. Texts: *La chanson de Roland*; *Aucassin et Nicolette*; *Erec et Enide*; *La représentation d'Adam*. For reference: Nyrop, *Grammaire historique de la langue française*, Vols. I and II. Mj. ASSOCIATE PROFESSOR JENKINS.

8. Elementary Spanish.—The object of this course is to give the student a mastery of the essential principles of Spanish grammar. A textbook containing numerous practical exercises is used, and about a hundred pages of easy prose is carefully studied, with constant references to the grammar, and exercises in composition based upon the reading. Mj. MISS ENKE.

9. Modern Spanish Novels and Dramas.—This is a course in the careful reading of several modern works, including *La Familia de Alvarada* by Fernán Caballero, *José* by Palacio Valdés, and *Guzmán el Bueno* by Gil y Zárate. The course is intended to fit students for the appreciative reading of the best modern Spanish literature. Attention is constantly directed to points of syntax, idiomatic constructions, and synonyms, and each lesson contains a paragraph in English, based upon the reading, for translation into Spanish. Prerequisite: course 8 or its equivalent. Mj. MISS ENKE.

10. Spanish Prose Composition.—This course is designed to give the student a practical command of Spanish as a medium of expression. It may be varied to adapt it to the needs of the student, now tending more to commercial forms of composition, now to those forms used in literature or by the traveler. Prerequisite: course 8 or its equivalent. Mj. MISS ENKE.

11. Don Quixote.—This is mainly an interpretative and critical reading course, embracing the first fourteen chapters of the first part and the first ten chapters of the second part of "Don Quixote." The life of Cervantes and the literary movement of his time will be noticed. In the reading, the peculiarities of syntax, style, and diction, as compared with later Spanish, will be studied. A bibliography of the more important works will be given, enabling the student who may wish to make a more extensive study of the author to do so. Prerequisite: course 9 or its equivalent. Mj. MISS ENKE.

12. Old Spanish Readings.—Interpretation of selections from Kellar, *Altspanisches Lesebuch*. Mj. ASSOCIATE PROFESSOR PIETSCH.

13. Elementary Italian.—The aim of this course is to ground the student in the essential grammar of the language, and to equip him with a vocabulary which will enable him to read simple Italian prose. Opportunity will be given for phonographic practice at small additional expense. Mj. DR. CIPRIANI.

14. Advanced Italian.—Advanced courses in Italian will be arranged suited to the student's purposes and proficiency. The student must satisfy the instructor of his ability to enter upon the course proposed. (Informal.) Mj. DR. CIPRIANI.

Members of the Romance Department will endeavor to arrange informal courses for students who are able to do work of an advanced nature, whenever practicable.

XIV. GERMANIC LANGUAGES AND LITERATURES

1. Elementary German.—

A. This course aims to ground the student in the essentials of German grammar through the reading of easy idiomatic German and exercises in which special attention is given to the construction of the verb, noun, and adjective. Mj.

B. Continues and extends A to include the passive voice and the subjunctive, and calls for extensive reading of easy prose. Mj. DR. VON NOÉ.

2. Intermediate German.—Devoted primarily to the reading of easy modern prose, and incidentally to a rapid review of elementary German grammar. The text read will always serve as the drill-ground for grammar work. Attention will be directed constantly to German idiom, and from time to time the student will be required to reproduce in German what he has read. In the composition work emphasis will be laid upon word order and sentence structure, the knowledge of which is essential to the proper appreciation of the language. Mj. MR. GRONOW.

3. Review of Elementary German Grammar and Syntax.—This course presupposes a previous knowledge of German equivalent to that afforded by courses 1 and 2. It is intended for those who for any reason wish to make a brief systematic review of grammar and syntax, and consists of translation and other exercises based on short German stories, and of a limited number of original compositions embodying the principles reviewed. It will appeal especially (1) to students who desire to renew their acquaintance with the fundamentals preparatory to further study in the language; (2) to many German-Americans, and to those who have acquired their knowledge of the tongue by some natural method; (3) to candidates for the Ph.D. degree who are required to pass a preliminary examination in German. Mj. MISS KUEFFNER.

4. Intermediate Prose Composition.—Translation of easy idiomatic English prose into German, intended to lead the student to appreciate the equivalence of English and German idiom. Mj. ASSISTANT PROFESSOR KERN.

5. German Idioms and Synonyms.—The course comprises the study of (1) the method of word formation; (2) grammatical idioms; (3) synonyms, together with a thorough review of syntax. Attention is given to German-English cognates. Composition based upon selected modern German prose affords the basis of instruction. The course will be helpful to those who teach the language in secondary schools. Mj. MR. GRONOW.

6. Modern German Dramas.—This is primarily a reading course corresponding to Course 6 in residence. It aims at the acquisition of the foundations of idiomatic German on the basis of the language of the dramas read. A short theme in German on the subject chosen from the reading is required with each lesson. Mj. DR. VON NOÉ.

7. Scientific German.—The aim of the course is to enable the student to read German scientific prose. It corresponds in prerequisites to Course 6 in residence or course 7 of the correspondence-study curriculum. Short exercises in German composition connected with the text are required. Mj. DR. VON NOÉ.

8. The German Short Story.—The development of the short story (*Novelle*) into an art-form is one of the most interesting phenomena of nineteenth-century litera-

ture. The study of this evolution in Germany, together with the various forms of the short story extant—the dramatic, the lyric, the historical, the social, etc.—is the object of this course. The student will read, under guidance, selected stories of Lieck, Hoffmann, Riehl, Auerbach, Rosegger, Meyer, Keller, Fontane, Liliencron, and others. Reports and essays (in German) will be required. This course may be taken by anyone who has a fair reading and writing knowledge of German. Mj. DR. VON KLENZE.

9. Deutsche Aufsätze und Stilübungen.—An advanced course in composition corresponding to Course 11 in residence. It includes a study of masterpieces of the best German stylists and the criticism and development of graded themes. The theme-subjects deal with German life, history, and literature. The aim of the course is to develop the student's ability in essay writing. Of special value to teachers. Mj. DR. VON NOÉ.

10. Deutscher Satzbau und Stil.—A sequent to "Deutsche Aufsätze und Stilübungen." The aim of the work is to develop an instinct for idiom and an active sense of the niceties of style by discussing passages from great stylists of the nineteenth century and by German essay writing. It corresponds to Course 101 in residence. Mj. DR. VON NOÉ.

11. Outline History of German Literature.—

A. Includes a survey of the development of German literature from the scanty remnants of the earliest period of tribal migrations, heroic romances, and early ballads, through the first period of efflorescence—the twelfth and thirteenth centuries with their troubadours and national epics; the period of humanism and the reformation, up to the second period of efflorescence—the eighteenth century. Mj.

B. Aims at a more detailed study of prominent writers of the eighteenth century; the Romantic Movement with its best representatives, and the most characteristic novelists, dramatists, and lyricists of the nineteenth century. A is not prerequisite to B. Mj. DR. VON KLENZE.

NOTE.—Prerequisites for both A and B. Students taking either one of these courses must have a good reading knowledge of German as well as the ability to write with some ease. It is advisable that at least one of the courses in some special field of German literature as "The Short Story," or "Goethe's Lyrics," or their equivalents, should precede this course.

12. Goethe's Lyric Poetry as an Exponent of His Life.—No writer so minutely reflects his moral and intellectual growth in his lyric poetry as does Goethe. A chronological study of his lyrics affords, therefore, a subtle appreciation of his whole individuality. The student will pursue a study of the standard biographies of Goethe, together with his letters and autobiographical writings, while at the same time reading carefully the lyrics written during each period of his life. Essays are required throughout the course. Mj. DR. VON KLENZE.

13. Gothic.—A consideration of Gothic phonology, morphology, and syntax in connection with the reading of selections from the Bible translation of Ulfilas. Mj. ASSISTANT PROFESSOR WOOD.

14. Old High German.—The reading of selections from Braune's *Althochdeutsches Lesebuch*, with reference to the same author's *Althochdeutsche Grammatik*. This course is a natural sequent of course 12. Prerequisite: course 12 or its equivalent. Mj. ASSISTANT PROFESSOR WOOD.

Members of the Germanic Department will endeavor to arrange informal courses for students who are able to do work of an advanced nature, whenever practicable.

XV. THE ENGLISH LANGUAGE AND LITERATURE, AND RHETORIC

ELEMENTARY

1. English Grammar.—An elementary course in practical English grammar, assuming no technical knowledge of the subject, and intended for students who need instruction or review in such fundamentals as the parts of speech, their correct use in the sentence, punctuation, capitalization, etc. Foreigners imperfectly acquainted with English idiom will find this course of value, and in many cases it will be needed as preparation for the following composition courses. The exercises of the course consist mainly in the correction of faulty sentences, parsing and analysis, and the writing of sentences to illustrate the principles discussed. Mj. DR. MARSH.

ACADEMY

2. Preparatory English Composition.—This course is designed for those who wish practice, under criticism, in the simpler forms of English composition, and elementary instruction in rhetorical principles. It consists of exercises based upon the study of a prescribed textbook, and themes on subjects usually assigned by the instructor. Those who successfully complete the course should have no difficulty in passing the ordinary college entrance examination in English composition. Teachers in secondary schools should find the course helpful in their work. Business and professional men whose training has been deficient can gain valuable experience in practical composition. *Mj.* DR. MARSH.

3. Preparatory English Literature.—The instruction in this course will be based from year to year upon the standard requirements in English literature for admission to college and students who successfully complete the course should have no difficulty in passing the entrance examination. The aim, however, is to make the course valuable not only to such students, but also (1) to teachers of English in preparatory schools, and (2) to all persons who wish to take up, either for the first time or by way of review, the more simple and concrete phases of the study of literature. Students who have once registered for this course may secure instruction on the new books added in any subsequent year upon payment of \$5 for that year. *Mj.* MRS. MOORE.

COLLEGE

4. English I.—This course is designed to be a full equivalent of English 1 (the first course in English rhetoric and composition required of all students in residence) and commands corresponding credit. The aim of the course is to give the student a practical knowledge of the principles of rhetoric, and of their application to English writing. To this end he will write twenty short themes on a wide range of subjects and prepare twenty exercises illustrating the use of words, the structure of sentences, paragraphs, and whole compositions, and other rhetorical subjects. Exercises and themes will be criticized in detail and returned to the writer for correction. *Mj.* DR. MARSH.

5. English III.—This course is designed to be a full equivalent of English 3 (the second course in English rhetoric and composition required of all students in residence) and commands corresponding credit. The course aims (1) to give training in structure, and (2) to give instruction and practice in the four forms of composition—exposition, argumentation, description, and narration. To these ends the emphasis is laid on exposition and argumentation, textbooks are required, lesson papers must be submitted, and a final examination taken. The written work, aside from the foregoing, will consist of six long themes each from 1,000 to 1,500 words in length, and ten short themes of from 100 to 200 words each. Admission to the course may be obtained by passing creditably "English I," or by submitting to the instructor an original exposition or argument showing ability. *Mj.* MRS. FLINT AND MISS DAVIDSON.

6. English IV.—

A. Expository—Argumentative.—This course gives a more detailed study of exposition and argument than is afforded by "English III." The work consists of (1) the writing of papers on the theory of these forms of composition as set forth in texts used, and (2) the writing of two expositions, two briefs, and two arguments. *Mj.*

B. Descriptive—Narrative.—In this course the descriptive study is incidental to the narrative. The work is based on the reading of six novels and a number of short stories. It consists (1) in the writing of papers on the theory of narrative writing as discussed in a text and illustrated in the novels and stories read and (2) in the writing of sixteen short themes and four long ones, three of these, short stories. *Mj.* MRS. FLINT.

NOTE.—Admission may be obtained in one of two ways: (1) by passing creditably "English III;" (2) by submitting to the instructor a manuscript showing ability. University credit will be given on recommendation of the instructor.

7. English V.—This course is intended for persons who have already mastered the technical difficulties of ordinary writing, and who are interested in some special form

of literary production—e. g., the editorial, the short story, the book review, etc., in which they desire instruction through criticism of the manuscripts submitted. The applicant for admission to this course should submit a statement of the work which he wishes to do, accompanied by an example of his writing which may serve as the opening theme of the course. The themes may form a connected whole, as chapters of a story or essay, or they may be unconnected in material, but similar in form. They are expected in general to represent practice along a single line of effort, but by arrangement with the instructor the work of the course may be divided between any two of the above mentioned forms of writing. No formal instruction is given in the elements of style or structure, but the general plan and the successive themes will be criticized with a view to helping the student to master the special problems involved in the form of writing which he has chosen. In general, twelve themes will be required, but the number will vary somewhat according to the length of the several themes. Mj. MRS. FLINT.

8. The Development of English Literature.—This course is designed to be the full equivalent of Course 40 in residence, the first required course in English literature. It introduces the student to the whole range of English literature in a series of connected masterpieces from Beowulf to Tennyson. The aim is not only to give some knowledge of the masterpieces in themselves, but to study their connection in the development of English literature; to observe the way in which the literature of each period has changed and developed into that of the succeeding period; to note what it has taken from the literature which preceded it, and what it has bequeathed to that which followed it. Some attention is given also to tracing a connection between the principal historic events and conditions of each period, and the literature of its own and succeeding periods. The course, as a whole, affords a broad foundation for more detailed and critical study. Mj. MRS. MOORE.

9. An Introduction to American Literature.—A series of studies of American life in American Literature. The first few lessons are given over to pre-Revolutionary literature for the purpose of observing the earliest departures from English models and traditions. Chief emphasis is, however, thrown on the poets, essayists and novelists of the nineteenth century. While the aim of the course is to put the student in the way of obtaining a preliminary acquaintance with the subject as a whole, assigned readings are restricted to selected works of twelve or fifteen representative men of letters, from Irving and Cooper to Lanier and Whitman. Mj. MISS CRANDALL.

10. The Teaching of English Composition in Secondary Schools.—This course will include a survey of methods in American and foreign schools, and will outline the problems involved in teaching adolescents the art of literary expression. These problems arise mainly from three circumstances: first, the fact that composition is at the same time a fine art and a tool in every-day business intercourse; second, that like the teaching of literature it is based on the psychology of adolescence; and third, that it is a most important agent in education, being the readiest medium of self-expression. Mj. MISS CRANDALL.

11. The Teaching of English Literature in Secondary Schools.—This course proposes a definite aim in teaching based on the function of art in education. The main topics involved are the place of literature in general culture, its special relations to adolescence, the psychology of adolescence, the course of study, and methods of study. Mj. MISS CRANDALL.

NOTE.—For admission to any one of the following courses, course 8 or its equivalent is prerequisite.

12. An Introduction to the Study of Shakspeare.—This course is intended (1) to give a general idea of Shakspeare's part in the great movement of dramatic literature which marks the Elizabethan Age; and (2) to trace the development of his mind and art through a study of typical plays in chronological order. The origin and growth of the drama is briefly outlined, and Shakspeare's relations to his predecessors and contemporaries incidentally indicated. In the study of the dramatist the plays are regarded as an organic whole, forming the stages in a continuous mental growth—a progressive revelation of their author's genius and the variety of his powers. To this end the following plays, typical of the different periods in Shakspeare's life, are critically read, and in the order of their production: *Henry the Fourth, As You Like It, Othello, King*

Lear, *Antony and Cleopatra*, and *The Tempest*. For purposes of comparison the student is also required to read *The Two Gentlemen of Verona*, *Richard the Second*, and *Romeo and Juliet*. The course is designed for those in quest of general culture who may not have the opportunity or the time to undertake the more intensive study required in "The Elizabethan Drama." Mj. ASSOCIATE PROFESSOR TROOP.

13. The Elizabethan Drama.—In a series of advanced courses opportunity is given to gain an intimate knowledge of all the plays of Shakspeare and some of the greater plays of his predecessors and his later contemporaries. The plays are studied as *plays*, not as material for philological investigation. The aim is the serious assimilative study of their literary quality, and their dramatic and histrionic value. The pre-existent conditions which made the Elizabethan drama possible, and also the influences which shaped it, are considered in some detail. In courses B, C, and D, devoted to the study of Shakspeare, his plays are read in their chronological order. (cf. "An Introduction to the Study of Shakspeare.")

A. Shakspeare's Predecessors.—In its first part this course deals summarily with the origin of the drama in England, its primitive forms, its development during the middle ages, and the social and economic facts upon which it was then based; with the transforming effects, in the seventeenth century, of humanism, and of the advent of a new class of professional players acting in permanent theatres; and with other influences, native, classical, and Italian, which tended to shape the Elizabethan drama. In the second part of the course are studied certain plays of Lyly, Kyd, Marlowe, Peele, Greene, Lodge, and Nash, whose careers as dramatic writers began before Shakspeare became known as a dramatist. The plays are selected for their importance in the history of the English drama, and for their literary and dramatic value. Mj.

B. Shakspeare's Plays (1591-1594).—In this course are studied *Love's Labour's Lost*, *The Two Gentlemen of Verona*, *A Comedy of Errors*, *Romeo and Juliet*, *Henry the Sixth*, *Richard the Third*, *Richard the Second*, *Titus Andronicus*, *The Merchant of Venice*, and *King John*. A survey is taken of Shakspeare's life, the condition of the stage, and the attitude of the Elizabethans towards it. Mj.

C. Shakspeare's Plays (1594-1603).—This course is concerned with that period of the dramatist's life in which he ultimately reaches the maturity of genius. The plays studied are: *A Midsummer Night's Dream*, *The Taming of the Shrew*, *Henry the Fourth*, *The Merry Wives of Windsor*, *Henry the Fifth*, *Much Ado About Nothing*, *As You Like It*, *Twelfth Night*, *All's Well That Ends Well*, *Julius Caesar*, *Hamlet*, *Troilus and Cressida*, and *Measure for Measure*. There is included a consideration of comedy and tragedy as understood by Shakspeare. Mj.

D. Shakspeare's Plays (1604-1611).—This course covers the period in which the dramatist dealt with the highest themes of tragedy, and includes also his latest plays: *Othello*, *Macbeth*, *King Lear*, *Timon of Athens*, *Antony and Cleopatra*, *Coriolanus*, *Cymbeline*, *A Winter's Tale* and *The Tempest*. The work concludes with a review of Shakspeare's closing years, and of his relations to his times. Mj.

E. Shakspeare's Later Contemporaries.—Herein is traced the decline of tragedy and the progress of the comedy of manners. The course comprises a study of selected plays of Ben Jonson and the later Elizabethans, Chapman, Dekker, Middleton, Heywood, Beaumont and Fletcher, Massinger, Webster, Ford, and Shirley. (The required plays are all included in the "Mermaid Series".) It aims to familiarize the student with these dramatists individually, to consider their connections with one another and with Shakspeare, and their relations to their times. Some knowledge of the general course of the national history of the first half of the seventeenth century is necessary for an understanding of the causes underlying the decline of the old drama and its end on the closing of the theaters in 1642. Mj. ASSOCIATE PROFESSOR TROOP.

NOTE.—Prerequisite: course 12 or its equivalent is prerequisite for any one of the five courses. Any one of them may be taken alone.

NOTE.—The following courses, 14-18, comprise a series of reading courses, corresponding to Courses 42-48, in residence, which cover with some minuteness the history of English literature from the beginning of the modern period down to 1892. In each major the work consists mainly in the reading of a large number of representative masterpieces of the period, and the preparation of answers to questions based upon this reading. Text-book work in a literary history of each period is assigned; and the lesson sheets furnish much supplementary material, such as bibliographies of the required authors, suggestions for study of their principal works, etc. These courses (or their equivalents) are required of all candidates

for the Doctor's degree in English, and at least four of them (or equivalents) for the Master's degree. Hence, though a year of resident study is required for the Master's degree, students may take these required courses by correspondence and later do more highly specialized work in residence. Graduate credit will be given to properly prepared students, who do creditable work in their recitation papers and pass the final examination given on each course. Students not entitled to graduate credit, moreover, may register for any of the courses, the only prerequisite being course 8 or its equivalent. It is not necessary that the series be taken in chronological order, as each course is complete in itself; but those intending or desiring to take the whole series are advised to follow the chronological order. The series as a whole is designed to give first-hand knowledge of the chief masterpieces of modern English literature, excepting only Shakspeare's works which are treated in a special course.

14. English Literature from 1557 to 1642.—Reading of Spenser (at least one book of *The Faerie Queene* and various shorter poems), Wyatt, Surrey, Sackville, Sidney, Herrick, Milton (minor poems), and other poets; plays by Marlowe, Jonson, Beaumont and Fletcher, and lesser dramatists both before and after Shakspeare; Ascham's *Schoolmaster*, portions of Lyly's *Euphues* and other works of fiction, Sidney's *Defence of Poesie*, Bacon, Raleigh, and Sir Thomas Browne. Mj. DR. MARSH.

15. English Literature from 1642 to 1744.—Reading of representative prose works of Milton, Jeremy Taylor, Isaak Walton, Pepys, Clarendon, Bunyan, Dryden, Addison, Steele, Defoe, and Swift; poems of Milton from books of *Paradise Lost*, *Samson Agonistes*, etc., Dryden, Pope, Thomson, and numerous minor poets; plays by Dryden, Otway, Congreve, Wycherley, and other Restoration dramatists. Mj. DR. MARSH.

16. English Literature from 1744 to 1798.—Reading of novels by Richardson, Fielding, Smollett, Sterne, Johnson, Goldsmith, the so-called "Gothic" romancers, and Fanny Burney; miscellaneous prose by Johnson, Goldsmith, Boswell, Gibbon, and Burke; poems by Gray, Collins, Goldsmith, Chatterton, Blake, Cowper, Crabbe, Burns, and others; plays by Goldsmith and Sheridan. Mj. DR. MARSH.

17. English Literature from 1798 to 1832.—Poems by Wordsworth, Coleridge, Southey, Scott, Campbell, Moore, Byron, Shelley, Keats, Hunt, Hood, Landor; novels by Scott and Jane Austen; miscellaneous prose by Coleridge, Lamb, Hazlitt, DeQuincey, the reviewers, etc. Mj. DR. MARSH.

18. English Literature from 1832 to 1892.—Reading of numerous poems by Tennyson, the Brownings, Matthew Arnold, Clough, the Rossettis, Swinburne, Morris, and others; novels by Dickens, Thackeray, Charlotte Brontë, George Eliot, Meredith, Hardy, and Stevenson; miscellaneous prose by Carlyle, Macaulay, Newman, Arnold, Pater, Ruskin, and Stevenson. Mj. DR. MARSH.

19. Studies in the Works of Robert Browning.—The work of this "incorrigible optimist" and original poet offers unusual problems both in subject matter and in form. The peculiarities of his style, and the varied forms in which he wrote offer abundant material for the study of technique, and of general principles of art. The course deals also with his development and his relation to his time. The variety of his themes makes it convenient to classify his work into three main groups: poems in love, art, and religion. M. MRS. MAUDE RADFORD WARREN.

20. Studies in the Poetry of Tennyson.—The course deals with the most significant works of this representative nineteenth century poet. Especial attention is given to his place in the development of English poetry, to the characteristic qualities of his verse, and to his close relation to the general currents of thought in his time. The study includes the early poems, *Maua*, *In Memoriam*, *The Idylls of the King*, and minor poems. M. MRS. MAUDE RADFORD WARREN.

21. The Historical Development of English Fiction.—The historical development of narrative prose fiction in English is traced in outline from the later mediaeval prose romancers and story-tellers to the beginning of the twentieth century. A brief preliminary review of the field of fiction is attempted in the initial lessons—the qualities shared by novelist and poet, the material common to both, the similarities in general construction of the novel and drama; and throughout, the Continental influences are noted, sources inquired into, and the modifications in structure and content of the novel in succeeding periods are indicated. Illustrations of the various aspects and principles of the art of fiction are drawn from the representative works selected.

A. From Sir Thomas Malory to Oliver Goldsmith.—In this course one work of each of the following authors is read: Malory, Lyly, Sidney, Lodge, Greene, Nash,

Bunyan, Defoe, Swift, Richardson, Fielding, Smollett, Sterne, and Goldsmith. The character-sketch of the seventeenth century, and as it is developed by Steele and Addison in *The Spectator* is briefly dealt with, as are other literary forms which contributed to, or tended to shape, the modern novel. Mj.

B. *From Mrs. Radcliffe and Godwin to Stevenson and Kipling.*—Beginning with the reappearance in England of romantic prose fiction—the “School of Terror,” or the “Gothic” romance, and the “School of Theory”—doctrinaire or revolutionary, one work of each of the following authors is read: Walpole, Mrs. Radcliffe, Godwin, Frances Burney, Maria Edgeworth, Jane Austen, Scott, Cooper, Hawthorne, Lytton, Dickens, Thackeray, Kingsley, Trollope, Reade, Mrs. Gaskell, Charlotte Brontë, George Eliot, Meredith, Hardy, Stevenson, and Kipling. The course concludes with a brief consideration of fiction as affected by the scientific movement of the nineteenth century, particularly by physiology and psychology. Mj. ASSOCIATE PROFESSOR TROOP.

22. *English Essayists of the Nineteenth Century.*—An advanced undergraduate study of six essayists, including a brief preliminary discussion of the appearance in England of the essay, and its development as a literary form. The work is based upon typical essays of Lamb, De Quincey, Macaulay, Carlyle, Ruskin, and Arnold. Newman or Hazlitt may be substituted for DeQuincey if desired. The method of study is the biographical, and historical, and to a limited extent the philosophical. Emphasis is laid upon the intimate relation of literature to the forces of social life. Mj. ASSOCIATE PROFESSOR TROOP.

23. *American Literature: The Renaissance of New England.*—This course embraces a study of Emerson, Whittier, Longfellow, Lowell, Holmes, and Hawthorne—the representative writers of that period of intellectual activity in New England which roughly corresponds with the first half of the Victorian era. The various ways in which this activity expressed itself—in oratory, scholarship, Unitarianism, transcendentalism, and reform—are incidentally examined in so far as they affected or were affected by these writers. Sufficient attention is given to the general history of American literature to make this period intelligible to the student. Mj. ASSOCIATE PROFESSOR TROOP.

24. *Modern Realistic Fiction.*—This course is designed to present the content and method of a typical group of realistic novels. The following works, or their equivalents, will be read: George Eliot's *Silas Marner*, Hardy's *Tess of the D'Urbervilles*, Ward's *Marcella*, Howell's *A Modern Instance*, Meredith's *The Egoist*, Tolstoi's *Anna Karenina*, Maarten's *Greater Glory*, Zola's *L'Assommoir*, Sudermann's *The Wish*, Wilkins's *Pembroke*. Mj. MRS. MAUDE RADFORD WARREN.

25. *The Short Story in English and American Literature.*—In connection with a brief résumé of the history of the short story in England and America, students will read, critically, a number of representative stories by Irving, Hawthorne, Poe, Dickens, Bret Harte, Henry James, Page, Cable, Stockton, Davis, Mary E. Wilkins, Hardy, Doyle, Stevenson, Kipling, Hewlett, and others. The critical study will be devoted principally to investigation of the methods by which effectiveness is secured. Mj. DR. MARSH.

26. *The Principles of Literary Criticism.*—This course presents and compares some of the most influential critical tenets; examines the relations of literature to other arts, and the support given to criticism by recent studies in the psychology of artistic production. Theory is supplemented throughout by studies in literary interpretation. Mj. MISS CRANDALL.

27. *Elementary Old English.*—Grammar and reading, corresponding to Course 21 in residence. Mj. DR. MARSH.

28. *Advanced Old English.—Beowulf.*—An elementary reading course in Old English Poetry. (Informal.) Mj. ASSOCIATE PROFESSOR BLACKBURN.

29. *Advanced Old English.—Cynewulf's Works.*—An advanced reading course in Old English Poetry. (Informal.) Mj. ASSOCIATE PROFESSOR BLACKBURN.

XVI. GENERAL LITERATURE

This Department offers work to two distinct classes of students: (1) those doing graduate work in comparative literature, for whom a knowledge of the original languages and some previous training in literature are indispensable; (2) those doing undergraduate work, who wish to become acquainted with foreign literatures for the purpose of general culture, and for whom a reading knowledge of the original languages, though desirable, is not necessary.

1. German Literature (in English).—This course attempts a survey of the principal movements in German Literature from its first appearance to the present day. Representative authors are studied and constant attention is given to the connection of social and intellectual life with German poetry. Frequent parallels are drawn with corresponding developments in English literature. Mj. DR. VON NOÉ.

2. Goethe's Life and Works.—The work of Goethe, who has been called by Matthew Arnold "the greatest poet, the clearest, the largest, most helpful thinker," will be studied mainly from the point of view of its contribution to the world's history of thought and culture. Its relation to the great cultural movements of his age will be studied in detail, and a careful literary analysis will be made of the chief dramas, novels, and lyrics. The work will consist (1) in answering critical and interpretative questions on the text; (2) in writing brief studies on topics suggested by the cultural setting, by lines of thought to be followed through several of Goethe's works, or by comparison with related works in other literatures. Prerequisite: courses 4 and 8 in English or their equivalent. Mj. MISS KUEFFNER.

3. Milton and Dante.—This advanced undergraduate course comprises the critical study of Milton's *Paradise Lost*, the Epic of Protestantism, and the careful reading (in translation) of Dante's *Divina Comedia*, the Epic of Catholicism. Dante, who interprets all Mediaeval Europe, is the closest analogue of Milton, who represents Puritan England and the whole spirit of Puritanism. They preserve and express in forms of epic poetry the profoundest sentiment and highest spiritual aspirations of their respective ages. To bring out these facts and to present in outline the religious philosophy of each of the poets is the main purpose of this course of study. In the case of the English author considerable attention is given to the form through which the thought reaches the reader, and to the peculiar power which lies in Milton's style. It is presupposed that the student has some knowledge of the nature of poetry in general, of its different varieties, and of the various kinds of rhymes, meters, etc. Mj. ASSOCIATE PROFESSOR TROOP.

4. Studies in Recent Drama.—This course embraces a study of selected plays of Ibsen, Sudermann, Hauptmann, D'Annunzio, Phillips, Jones, Pinero, and Shaw. About half the work will be put upon the plays of Ibsen. Mj. MRS. WARREN.

XVII. MATHEMATICS

ACADEMY

1. Elementary Algebra.—

A. This course presupposes no acquaintance with the subject, and treats of general number, algebraic number, the four fundamental operations, integral algebraic equations, type-forms in multiplication and division, factoring with the usual applications, fractional and literal equations in one unknown number, interpretation of solution of problems, simultaneous linear equations, with solutions of numerous problems and interpretations, indeterminate linear equations, evolution and inequalities. Every topic is illustrated by many examples. The theory is thorough and rigorous. Fisher and Schwatt's *Higher Algebra*. Mj.

B. Continues A, taking up irrational numbers, surds, imaginary and complex numbers, quadratic equations, equations leading to quadratics, roots of quadratic equations, adaptation to questions in maxima and minima, equations of higher degree than the second, irrational equations, simultaneous quadratic and higher equations, ratio, proportion, variation, theory of exponents, the progressions, the binomial theorem for a positive integral exponent, logarithms developed to application of tables in

computation, compound interest and annuities. Fisher and Schwatt's *Higher Algebra*. Mj. ASSISTANT PROFESSOR HOOVER.

2. **Plane Geometry.**—The theory is well illustrated by numerous original exercises. The first major comprises the first three books; the second, the remainder of plane geometry. Wentworth's *Plane and Solid Geometry*. (Revised.) DMj. ASSISTANT PROFESSOR HOOVER.

3. **Solid Geometry.**—Here, as in plane geometry, emphasis is laid on exercises calling for original work. Wentworth's *Plane and Solid Geometry*. Mj. ASSISTANT PROFESSOR HOOVER.

COLLEGE

4. **Plane Trigonometry by the Laboratory Method.**—It is one of the tenets of the laboratory method of mathematical instruction that the student shall approach each principle and each problem from at least two of the following standpoints: the graphical (by use of drawings, generally to scale), the analytical (by use of formula), the arithmetical (by use of tables), and the mechanical (by simple experiments or by appeal to simple physical principles). Experience shows that the total effect of the views from the various angles gives greater mastery than a single view, however clear. At the outset of the course in trigonometry, the graphical and arithmetical views are emphasized. The obvious properties of the graphs (on square-ruled and polar paper) lead naturally to all the fundamental formulae of plane trigonometry. This method is in marked contrast to the current method by which each formula makes its appearance from some unseen source, to be followed by a more or less artificial proof. When the concepts and formulae of trigonometry are thus naturally acquired, the student proceeds to the usual computations and applications as given in a standard text. But graphical computation also is emphasized, first on pedagogical grounds, next for purposes of check, and finally for its intrinsic importance to engineers and others who require fairly accurate, but rapid, solutions. Mj. ASSOCIATE PROFESSOR DICKSON.

5. **Plane Trigonometry.**—The student is expected to examine the theory of the subject carefully and give evidence of his mastery of it by working numerous examples. Special attention is given to computation in which Hussey's or Bremikers' tables are used. The course covers about the first two hundred pages of the text, Browser's *Treatise on Plane and Spherical Trigonometry*. For a review and more advanced course is this subject, Chauvenet's text is used (cf. course 6). Mj. ASSISTANT PROFESSOR HOOVER.

6. **Spherical Trigonometry.**—The work is based on the latter part of Chauvenet's *Plane and Spherical Trigonometry*. (Informal.) M. ASSISTANT PROFESSOR HOOVER.

7. **College Algebra.**—This includes chapters in permutations and combinations, probability, variables, and limits, infinite series, binomial theorem for any rational exponent, undetermined coefficients, summation of series, exponential and logarithmic series, determinants, and theory of equations, with abundant exercise in solution of illustrative examples. Fisher and Schwatt's *Higher Algebra*. Mj. ASSISTANT PROFESSOR HOOVER.

8. **Plane Analytic Geometry.**—The student with good command of the preceding courses secures in this course a control of the elementary processes and principles of the powerful science of analytic geometry—a science of systematic application of algebra and trigonometry to the study of problems of geometry. For beginners, Bowser's *Elements of Plane and Solid Analytical Geometry* is used. For those having some acquaintance with the science Loney's (*Plane*) *Co-ordinate Geometry* is used. Mj. ASSISTANT PROFESSOR HOOVER.

9. **Solid Analytical Geometry.**—C. Smith's *Solid Geometry*. (Informal.) Mj. ASSISTANT PROFESSOR HOOVER.

10. **Calculus (Culture Course).**—This course is for those who do not wish to pursue the longer course in the Calculus but who nevertheless desire an introductory knowledge of the subject sufficient at least to gain an idea of the way in which this potent instrument is used in attacking the practical problems of geometry, mechanics, physics, and other sciences. It will also serve the purpose of those who wish to make preliminary

preparation for the more exhaustive study of the subject. It presupposes a working knowledge of trigonometry, college algebra, and the elements of analytical geometry. Mj. ASSOCIATE PROFESSOR SLAUGHT AND MR. STOUT.

11. Calculus.—This subject is presented in two majors, the first treating of the differential, and the second, of the integral calculus. The fundamentals are carefully studied and find extended and varied application in the selected problems. Osborne's *Differential and Integral Calculus*. DMj. ASSISTANT PROFESSOR HOOVER.

12. Advanced Calculus.—Especial attention is given to the theory. Byerly's *Differential and Integral Calculus* (latest edition). (Informal.) DMj. ASSISTANT PROFESSOR HOOVER.

13. Analytical Mechanics.—An elementary course, requiring a good working knowledge of the previous courses. The main divisions of the subject, statics and dynamics, are well illustrated by typical examples. Bowser's *Analytical Mechanics*. Mj. ASSISTANT PROFESSOR HOOVER.

14. Elements of Theories of Probability and of Least Squares.—In this course enough of the mathematical theory will be given to fit the student to pursue the following course with profit. The fundamental conceptions are carried far enough to put the student in practical possession of the theories of these subjects. Mj. PROFESSOR MYERS.

15. The Theory of Errors.—This course requires a fair academic knowledge of enough differential and integral calculus to make clear the meaning and use of the probability-integral. It will have little to do with the theory of probabilities or of least squares further than relates to the discussion of erroneous observational data and the best-known and most practicable methods of eliciting from such data their content of truth. Mj. PROFESSOR MYERS.

16. Advanced Theory of Equations.—The earlier part of this course gives a very complete treatment of the theory of equations; the latter part includes determinants, symmetric functions, invariants, transformations, substitutions, and groups. Burnside and Panton's *Theory of Equations*, fourth ed. (Informal.) DMj. ASSISTANT PROFESSOR HOOVER.

17. Differential Equations.—This course presupposes a good working knowledge of Calculus. Johnson's *Differential Equations*. (Informal.) DMj. ASSISTANT PROFESSOR HOOVER.

18. Projective Geometry.—Reye's *Geometrie der Lage*. (Informal.) Mj. PROFESSOR MOORE.

GRADUATE

19. History of the Science of Mathematics.—This course is intended to put the student in possession of a knowledge of the most fruitful epochs and of the most salient influences of mathematical history; to make him more keenly appreciative of the fact that his science is and always has been a growing science, to inform him that the attitude of mind exhibited by the works of the great mathematicians is most conducive to progress today; in short, to assist the mathematical student to a more intelligent identifying of himself with those men and movements which are making for mathematical advance at the present time. Mj. PROFESSOR MYERS.

20. History of the Teaching of Elementary and Secondary Mathematics.—Especially attention is here given to the historic order of evolution of the subject-matter of arithmetic, algebra, geometry, and trigonometry, and to the ideas which, among the various peoples who have contributed to these subjects, have determined the place and function of these subjects, from age to age, in the education of the youth. The work will be conducted from the higher point of view of the teacher and with reference to the meaning, for current teaching of these subjects, of the historic stages through which they have passed to reach their present status in school curricula. Mj. PROFESSOR MYERS.

21. Advanced Analytical Geometry.—Charles Smith's *Conic Sections*, with chapters on trilinear co-ordinates, reciprocation, etc. (Mj); or Whitworth's *Modern Analytical Geometry*, limited to the trilinear and quadrilinear notation (informal,

DMj); or Salmon's *Conic Sections*, extended to include the invariant theory, involution, projection, etc., a standard treatment. (Informal.) DMj. ASSISTANT PROFESSOR HOOVER.

22. **Differential Equations.**—Forsyth's *Differential Equations*. (Informal.) DMj. ASSISTANT PROFESSOR HOOVER.

23. **Spherical Harmonics.**—This course gives chief attention to such special forms of partial differential equations as integrate into the standard series and functions called for in advanced studies in heat, light, vibration, electricity, and gravitation. The course will be of special value to students or teachers of mathematics, advanced physics, mechanics, and astronomy, whose mathematical training has not been as extended as it should have been. Emphasis will be laid about equally upon academic and pedagogic phases of study. Practical electricians and engineers of good attainment will find the course especially helpful to them. Mj. PROFESSOR MYERS.

24. **Analysis.**—Stolz's *Allegemeine Arithmetik*, Picard's *Traité d'analyse*. (Informal.) 4Mj. PROFESSOR MOORE.

25. **Theory of Functions of a Complex Variable.**—Harkness and Morley's *Introduction to Analytic Functions*; with students who read German, Burkhardt's *Einführung in die Theorie der Analytischen Funktionen* will be used. (Informal.) DMj. PROFESSOR MOORE.

26. **Elliptic Functions.**—Tannery et Molk's *Elements de la théorie des fonctions elliptiques*. (Informal.) DMj. PROFESSOR MOORE.

27. **Algebra.**—Weber's *Lehrbuch der Algebra*. (Informal.) DMj. PROFESSOR MOORE.

28. **Numbers.**—Bachmann's *Zahlentheorie*. (Informal.) DMj. PROFESSOR MOORE.

SCHOOL OF EDUCATION

29. **Review Course in Mathematics for the Elementary School.**—This is designed primarily for the review and restudy, from the teacher's point of view, of the subject-matter upon which the mathematical work of the elementary schools should be based. It deals largely with the applications of mathematics to quantitative problems and questions of school environment and everyday life. The number work of geography, nature-study, commerce, business, of construction, and of the industries will receive special emphasis. Out of work drawn from these various sources the science of arithmetic will be derived. The bulk of the work will consist in the actual solution of problems drawn from modern life and representing real conditions. The course will be given under the following heads: (1) work in counting, indefinite comparison and measurement, covering the period from Grade I to Grade V, inclusive; (2) work in direct measurement, definite comparison, and ratio, covering the period from Grade III to Grade VII, inclusive; (3) direct and indirect measurement and comparison, covering the period from Grade V to Grade VII, inclusive; (4) observational and experimental geometry; inductive geometry and generalized arithmetic, covering the period from Grade V to Grade X, inclusive. Mj. PROFESSOR MYERS.

30. **Pedagogy of Mathematics of the Elementary Schools.**—This course will be based upon the preceding course or its equivalent, and will deal with its educational aspects and pedagogical justifications. While concerning itself chiefly with modern reasons and methods for the teaching of arithmetic, it will not ignore the historical forces and factors out of which the best modern procedure has been evolved. Laboratory and field-work in mathematics teaching will be studied, and the psychological grounds for these means of imparting mathematical knowledge will be recapitulated. The kind and place of elementary geometry and algebra in the grades will be considered. The following synopsis will indicate the nature of the work: (1) correlated, applied, and formal number work in grades I to V; (2) theoretical and practical arithmetic of business, of the industries, of elementary science, and of the builder's trade; (3) such geometry and algebra as the pupil is ready for and as will properly graduate his steps toward the high-school; (4) the correlation of these three lines of work into an organic whole for the elementary pupil. Mj. PROFESSOR MYERS.

31. The Teaching of Secondary Mathematics.—This course presupposes a good knowledge of high-school geometry and algebra. A knowledge of plane trigonometry is desirable, though not required. The course will deal with the problems of the high-school teacher so far as related to the actual work of the classroom. Considerable work in gathering real material and preparing plans for topics of local, general, scientific, social, or industrial interest will be required. The following summary will show the phases of high-school mathematics teaching to be dealt with: (1) high-school arithmetic, geometry, algebra, and physics taught abreast during the first four years; (2) laboratory work in geometry, algebra, trigonometry, and elementary mechanics during the second and third years; (3) laboratory and field-work in secondary mathematics and sciences, together with much abstract work in the third and fourth years; (4) the correlation of this work into a unified mathematical whole. Mj. PROFESSOR MYERS.

32. The Psychology of Number.—The work of this course requires a good knowledge of the subject of arithmetic and some power of abstract thought. Questions having to do with the psychological genesis and growth of the number concept are examined. The psychologic grounds for and against the ideas which have dominated pedagogic method in the elementary mathematics are critically examined. The variable unit conception of number is studied with special care. The purpose of the course is to make teachers of elementary mathematics clearly conscious of the function of this subject in elementary education, thereby rendering this practice immune from contagion of shallow mechanical devices as methods of training the number faculty of children. Mj. PROFESSOR MYERS.

33. The Mathematics of History, Geography, Nature-Study, and Constructive Work for Elementary Schools.—The purpose of this course is to aid teachers of all grades of the elementary schools to gather and organize for use in mathematics the quantitative material of the central subjects. Besides furnishing much problem material, it gives samples of ways to systematize this material to meet the needs of arithmetic both as a science and an art. Without neglecting the mathematical requirements of elementary schools, it shows how to teach the uses of arithmetic and the elements of algebra and geometry in the affairs of everyday life. It is essentially a course on the mathematics of the central subjects of the elementary school. Its aim is to teach elementary school mathematics through its uses, and to assist in unifying the school work. Mj. PROFESSOR MYERS.

34. Mathematics for Teachers and Students of Commercial Geography and Industrial History.—The work of this course is based upon commercial geography and industrial history. It deals mainly with comparative studies of the industries and of the industrial products of our nation today with those of former times and of other leading nations. The graphical method is the dominant mathematical procedure. The problems are taken largely from the latest statistical sources for corn, cotton, coal, rice, coffee, etc., and from the bulletins of the United States departments, and from agricultural experiment stations. An important purpose of the course is to furnish numerous exemplifications and suggestions as to ways of using this material in the teaching of mathematics. The course is intended to help both regular grade teachers and special teachers of geography and history, in either elementary or secondary schools, who desire to correlate more closely industrial and commercial studies with the regular mathematical work. Mj. PROFESSOR MYERS.

35. Mathematics for Teachers of Handicraft.—This is a course for teachers of either elementary or secondary schools. It will concern itself with a study of the relation and meaning of the work in manual training, domestic science, and drawing and designing to the mathematical work already in the curricula of the public schools. It will assist special teachers of the arts, to relate their work more intelligently and more organically to the all-round work of their pupils. The purpose of the course is to study and to organize mathematical subject-matter from the view-point of the arts and technologies. Mj. PROFESSOR MYERS.

36. Mathematics for Teachers and Students of Home Economics.—This course is designed for both actual and intending teachers of home economics in either the elementary or secondary school. It presupposes a fair academic knowledge of

arithmetic, elementary algebra, and geometry. It covers the following three phases of the professional duty toward mathematical work of teachers of home economics; (1) the modern point of view of the teaching of mathematics in elementary and secondary schools; (2) the educational purposes and grounds that are common to home economics and mathematics in these schools; (3) the best methods of solving and of pedagogically evaluating the mathematical problems that arise in the teaching of home economics in these schools. Some of the sources whence the problems are drawn are cooking, drawing, heating and ventilating houses, chemistry of foods, dietetics, etc. Mj. PROFESSOR MYERS.

37. Astronomy for High-School Teachers.—This is a course for high-school teachers who desire to make astronomy a more vital force in secondary education than is possible with a mere textual description of astronomical facts and phenomena. Teachers of all branches of secondary science recognize that the day of mere textbook science is past, and that the reason astronomy is being so generally dropped from the high-school is that, as the subject is usually taught, both its scientific and its educational value are very largely lost. This is a course along experimental, observational, and scientific lines. Mj. PROFESSOR MYERS.

38. Plane Trigonometry and Surveying with Surveyor's Tape and Extemporized Apparatus.—Most of the problems of elementary surveying will be included in this course. It is to assist teachers of secondary mathematics, who can expend but little, if any, money for equipment, to vitalize their teaching by introducing into their work such practical applications of the mathematical problems proposed by the class as will make the propositions appeal to the class as presenting real problems needing solution. Most surveying, though ordinarily done with expensive instruments, can be done quite well with a tape and water level. To execute the work in this way makes more mathematical work necessary, but this is not an objection when the prime purpose is mathematical, rather than practical. The few instruments needed for the course may be rented from the University for a small fee. Mj. PROFESSOR MYERS.

39. Surveying and Plane Trigonometry Taught Simultaneously.—This is for high-school teachers or for individuals who have had plane geometry and elementary algebra through quadratics. It will be useful for persons who cannot, or do not care to take time enough for a course in trigonometry before beginning with its most common uses. Such and so much trigonometry as is needed to do the work in surveying will be taught when and where the surveying calls for it. The course may be so taken as to count for either one or two majors, according to the quantity of the work done. It will be given only to persons who have access to the use of a transit, engineer's tape, and the customary scales for use in plotting topographic work. Topographic maps must be submitted to the instructor at the expense of the student. Mj or DMj. PROFESSOR MYERS.

40. The Teaching of College Algebra, Trigonometry, and Analytics.—A good academic knowledge of these subjects is required for admission to this course. The following topical enumeration will suggest the nature of the questions considered: (1) the purpose of college algebra, trigonometry and analytics in the curriculum of the college; (2) viewed from the teacher's standpoint, (b) viewed from the student's standpoint; (2) method of teaching these subjects as determined by this purpose; (3) the correlation idea as applied to Freshman college mathematics; (4) the laboratory method in Freshman college mathematics; (5) use of graphical work early and all along; (6) applications of these subjects in teaching them; (7) dangers of this teaching becoming too abstract; (8) order and sequence of special topics. Any recent text in each of these subjects will answer. Mj. PROFESSOR MYERS.

41. The Teaching of Differential and Integral Calculus.—A good academic acquaintance with these subjects is required for admission into this course. The following topics will indicate the character of the work: (1) teaching calculus through its uses in mathematical physics and mechanics; (2) the historical order of development of the subject: (a) method of exhaustions, (b) method of indivisibles, (c) method of infinitesimals, (d) method of rates; (3) the best conception of the fundamental notions of calculus for beginners; (4) the gradual working-out by the student of the notion of the integral as an anti-derivative, and consequences; (5) notions of the calculus in the high school; (6) graphical calculus. Mj. PROFESSOR MYERS.

History of the Teaching of Elementary and Secondary Mathematics.—(cf. description under Mathematics 20.) Mj. PROFESSOR MYERS.

History of the Science of Mathematics.—(Cf. description under 19 above.) Mj. PROFESSOR MYERS.

The History of Astronomy.—(Cf. description under Astronomy, 2.) Mj. PROFESSOR MYERS.

XVIII. ASTRONOMY

1. Descriptive Astronomy.—An elementary general culture course designed: (1) to furnish an idea of the principles, methods, and results of the science; (2) to show the steps by which the remarkable achievements in it have been attained; and (3) to unfold that extended horizon which Astronomy has laid open. This work covers the recent investigations respecting the origin and development of the solar system. Moulton's "Introduction to Astronomy." (Informal.) Mj. ASSOCIATE PROFESSOR MOULTON.

2. The History of Astronomy.—This is a culture course on the subject for persons who desire to familiarize themselves with the scientific ideas, methods, and results that have determined scientific progress down to recent times. The history of no science so fully exhibits the complete scientific method as does the history of this oldest, most complete, and most exact of all the sciences. A careful study of it may well constitute a part of a liberal education. It is both stimulating and directly helpful to teachers of high-school science and mathematics. A real basis for much of the high-school mathematics is furnished by supplying the astronomical setting from which it sprang. Mj. PROFESSOR MYERS.

3. Analytical Mechanics.—Elementary course. Bowser's *Analytical Mechanics*. (Informal.) Mj. ASSOCIATE PROFESSOR LAVES.

4. Advanced Analytical Mechanics.—Ziwet's *Theoretical Mechanics*. Prerequisite: courses 12 and 21 in Mathematics and course 3 in Astronomy. (Informal.) Mj. ASSOCIATE PROFESSOR LAVES.

5. Celestial Mechanics.—A treatment of the dynamics of the solar system, including the contraction theory of the heat of the sun, the attractions of bodies, the two-body problem, the general integrals of motion, the three-body problem, perturbations, and determination of orbits. Moulton's *Introduction to Celestial Mechanics*. Prerequisite: course 11 in Mathematics or its equivalent. (Informal.) DMj. ASSOCIATE PROFESSOR MOULTON.

Astronomy for High-School Teachers.—(Cf. description under Mathematics 37.) Mj. PROFESSOR MYERS.

XIX. PHYSICS

1. Elementary Physics.

A. Mechanics, Sound, and Heat.—This course corresponds essentially to the first major of Course 0 in residence, and is designed to cover the first half year's work in elementary physics as given in high-schools and academies. A text is followed rather closely in the reading lessons, supplemented by new problems and references to other textbooks. The apparatus for the required laboratory work, together with detailed instructions for setting up the apparatus and performing the experiments, are packed in a special case and shipped to the student. Reports on both the reading and laboratory work are submitted by the student for approval or correction. A deposit of \$15 is required for the loan of the apparatus. This will be refunded when the same is returned intact, less expressage and \$3, the loan fee. Mj.

B. Electricity, Magnetism, and Light. A continuation of course A and the equivalent of the second half-year of high-school physics. The plan for text and laboratory work laid down under course A is followed in this course. A deposit of \$10 is required for the loan of apparatus. This will be refunded when the same is returned intact, less expressage and \$2.50, the loan fee. Mj. DR. HOBBS.

NOTE.—Courses A and B together constitute the admission unit in physics.

XX. CHEMISTRY

1. General Inorganic Chemistry (sequel to High-School Chemistry).—

A. This course furnishes a review and a continuation of "Elementary Chemistry" and, together with B, forms the link between the average high-school course in chemistry and the courses in "Qualitative Analysis" which follow. The course includes a study of the metallic and non-metallic elements and their chief compounds. It includes also the study of the laws and principles of the science and their use in explanation of chemical phenomena. The laboratory work, which is an important part of the course, affords opportunity for gaining direct knowledge of the different substances, their modes of manufacture, and their properties. In the choice of illustrations preference is given to the industrial and other applications of chemistry. Prerequisite: a course in Inorganic Chemistry as ordinarily given in high-schools. Mj.

B. Continuation of course A. Mj. PROFESSOR A. SMITH AND MR. MENZIES.

NOTE.—These two courses cover the ground of Courses 2S and 3S in residence. There are in all 80 lessons. In view of the fact that different students will have different degrees of preparation, however, the number of lessons may be varied by omitting such parts of the subject as the student may already have wholly mastered. In this way the work will be adapted to individual needs, and waste of time and effort will be avoided. For information regarding apparatus see Note 2, below.

2. Qualitative Analysis.—

A. This course aims to present the fundamental methods of qualitative analysis. The analytical reactions of the most important metals and acids are studied. This is done in such a way that the student learns the art of performing tests, and comes to understand how the methods of separation and detection are based upon a judicious selection and arrangement of these tests. During the course each student analyzes a number of simple salts, and a few mixtures which contain, in each case, only the metals or acids of a single group. Qualitative analysis has been modified by the influence of physical chemistry. The theories of solution and of electrolytic dissociation, and the study of problems in chemical equilibrium have all contributed to furnish analytical chemistry with a scientific foundation which it never possessed before. Course A is planned to develop the subject with this scientific, theoretical foundation and at the same time to give a thorough foundation in *systematic analysis*. Mj.

B. This course continues course A and gives the student practice in the analysis of simple salts, leading up to the analysis of simple mixtures, and, finally, to rather difficult mixtures in which the metals and acids are to be determined. About twenty-five "unknowns" will be analyzed. Mj.

C. This course is a continuation of courses A and B. The work consists in the analysis of complicated mixtures, and especially in the analysis of minerals and commercial products. Mj. PROFESSOR STIEGLITZ.

NOTE 1.—Prerequisite: These three courses cover the ground of the second year of college work in chemistry. For admission to A a year of General Chemistry, including laboratory work, is required.

NOTE 2.—The apparatus required in "General Inorganic Chemistry" or in "Qualitative Analysis" will not cost over \$15 in either case. It will be sent upon the receipt of a deposit of \$15. When the apparatus is returned the deposit will be refunded, less expressage, breakage, and the loan fee. The loan fee is charged for the use of apparatus, and, in the case of "Qualitative Analysis," for chemicals which are sent in the form of mixtures for analysis. The University is not allowed to supply reagents. The loan fee for each major of "General Inorganic Chemistry" is \$1.50 and for each major of "Qualitative Analysis" \$2.50. When apparatus is not furnished mixtures for analysis cost \$1 per major.

XXI. GEOLOGY

1. Physiography.—The course embraces the following general subjects: (1) the form of the earth as a whole, and its relation to other members of the solar system, particularly the sun and the moon, with the consequent changes in the length of day and night and the seasons; (2) the atmosphere—its constitution, temperature, pressure and movements, weather changes and climate; (3) the ocean—its constitution, temperature, movements, geologic activities, coastline phenomena; (4) the land—the geologic processes by which the earth's topography has been chiefly determined, and the varied topographic types which result therefrom, including the study of the origin and development of plains, plateaus, river valleys, mountains, volcanic cones, islands and seashore features. The effects of man's physical environment upon his distribution, his habits, and his occupations will be continually emphasized. Topographic

maps and folios will be studied, and the maps will be used in connection with land forms. The rocks and minerals forming the earth's crust will be treated as fully as the course permits. The last lessons will give the student some opportunity to do individual field-work. Laboratory methods will receive attention throughout the course. The course covers the ground of Course 1 offered in residence, and is suited to the needs of those who teach Physical Geography and Physiography in preparatory schools. Mj. DR. CALHOUN.

2. General Geology.—This course treats of the leading facts and principles of geology, and the more important events of geological history. It embraces the following general subjects: (1) rocks composing the earth's crust; (2) dynamical geology—the work of atmospheric, aqueous, igneous, and organic agencies treated in a manner to supplement the physiographic studies of course 1; (3) structural geology—the origin and structure of the igneous, metamorphic, and sedimentary rock formations; (4) historical geology—a systematic study of the development of the series of geological formations, with especial reference to the evolution of the North American continent. In this connection will be considered the historical development of organic life-forms. This course covers the ground of Course 2 in residence, and is adapted to the needs of teachers in high-schools and academies, and also to students not intending to specialize in geology. Course 1, while desirable, is not a prerequisite. Mj. MR. MEINZER.

3. Economic Geology.—This course is designed to give a general knowledge of the principles governing the formation and occurrence of the more important ores and non-metaliferous deposits, and of the conditions, commercial and otherwise, which limit their exploitation. It covers the study of (1) structural materials—including building stones, clays, limes, mortars, and cements; (2) fuels—including coal, petroleum, and natural gas; (3) principles controlling the deposition of ores—including the nature of ores, the forms of ore bodies, and their relations to the structural features of the containing rocks, the formation of cavities in rocks, underground waters, their composition, circulation, and work; (4) ores of metals—including iron, copper, lead, zinc, gold, and silver. No attempt will be made to cover the entire field, but typical districts or occurrences will be studied in each case. Incidentally it is hoped the student will learn how to study any other district or ore with which he may later come in contact, and to that end he will be put into touch with the general literature of the subject. The general methods of treatment will in each case be outlined. The course is not designed for beginners, and the student will be expected to be familiar with the common rocks and minerals. Prerequisite: course 2, or a practical knowledge of geology gained by experience in mining, etc. Mj. DR. EMMONS.

XXI A. GEOGRAPHY

1. General Geography.—The scope of geography, relation to other subjects, the use of globes, models, and maps, the earth as a member of the solar system, a study of land forms, climate, soils, minerals, plants, and animals, with reference to man's distribution and social development. Primarily for teachers of geography in public schools who have not had special training in the subject. Mj. MR. BARROWS.

2. Influence of Geography on American History.—A study of the geographic conditions which have influenced the course of American history, their importance as compared with one another, and their importance as compared with non-geographic factors. Among the topics considered are: geographic conditions leading to the discovery of America; exploration and settlement as affected by geographic conditions; geographic control of westward expansion; American sea power; growth to a continental power; geography of the Civil War; immigration; geographic control of industries; the United States a world-power. Primarily for teachers of geography and history. Mj. MR. BARROWS.

XXII. ZOÖLOGY

1. General Biology.—This course consists of laboratory work and reading, and is especially recommended to (1) those desiring a general culture course; (2) teachers; and (3) those looking forward to the study of medicine. The student must

have had some high-school training in science, preferably in chemistry or physics, or both. The laboratory work includes (a) a study of the structure, activities, and life-history of one or two unicellular animals (e. g., *Amoeba*, *Paramoecium*); (b) a similar study of one of the higher animals (e. g., the frog, its anatomy, histology, general physiology and development); and (c) a study of karyokinesis (cell-division). All those who are registered in the course in early spring will be required to collect some amphibian eggs. A fee of \$5 will be charged for the materials furnished and loan of slides. Materials furnished are preserved frogs with circulatory system injected, certain reagents not easily obtainable by the student, and an Atlas Science Tablet containing enough note and drawing paper for the course. The slides will illustrate cell-division, histology of the frog, etc. A compound microscope, magnifying 400 times, a hand lens, and a set of dissecting instruments will be needed. The cost of instruments (exclusive of the microscope and hand lens) need not exceed \$3. The cost of books will depend upon the library facilities of the student, but need not in any case exceed \$8. Mj. DR. SEELFORD.

2. General Morphology and Natural History of the Invertebrates.

A. *Protozoa, Porifera, Coelenterata, Platyhelminthes, Nemathelminthes, and Echinodermata*.—An introduction to the study of invertebrate animals. The work includes laboratory study of the anatomy, physiology, and, as far as possible, of the life-history of typical forms, together with assigned reading. Special emphasis is laid on the economic importance of the animals considered. The fundamental principles of comparative morphology are kept in view throughout the course. In addition to the study of the material furnished (about thirteen forms) the student will be expected to acquaint himself with some of the typical invertebrates of his own locality, and directions for the collection and determination of such forms will be given. The securing of the protozoa studied in the course is a part of the laboratory work, and since protozoa must be cultivated in infusions, which require from one to three or four weeks, the student should not delay registration until he is ready to begin work. Instructions for making infusions will be sent with the first lessons. Fee for material and loan of more difficult preparations, \$5. Mj.

B. *Mollusca, Annulata, and Anthropoda*. Continues A. About twelve forms are furnished. Fee for materials, \$5. Mj. DR. SEELFORD.

3. **Advanced Animal Ecology**.—This course is designed for students who have taken "Animal Ecology" in residence and consists chiefly of definite systematic field-work. Certain faunal groups will be studied in relation to the genesis of their environments, and their internal and external relations. The student must consult the instructor before registering for this course. Prerequisite: Animal Ecology (13 or 13A in residence). (Informal.) Mj. DR. SHELFORD.

4. **General Morphology of the Vertebrates**.—An introduction to the study of vertebrate animals, more especially recommended for teachers of zoölogy and those contemplating the study of medicine. The course is elementary, and may profitably follow course 2, though 2 is not prerequisite. The work will consist of assigned readings and dissection. The following type forms will be furnished for dissection: amphioxus, elasmobranch and frog or neoturus. Observation of the life history and development and metamorphism of the frog will be expected, to be supplemented by readings on the natural history, geographical distribution and classification of both the elasmobranchs and amphibians. The course covers the ground of Course 10 offered in residence. (Informal.) Mj. PROFESSOR WILLISTON.

5. **Studies of Birds**.—This course involves laboratory work, field studies, and reading. It is planned especially for teachers but it may also be considered a general culture course for persons interested in birds. The student should be able to identify a majority of the common birds in his region at sight, and some training in science including physics and zoölogy is desirable. The pigeon is dissected and drawings are made of structures studied. Especial attention is given in this work to adaptive structures and their significance in the life of the bird. The field-work includes studies of flight, voice, breeding habits, and migrations; and the reading is correlated with the laboratory and field studies. All of the work will be adapted to individual conditions to a certain extent. A set of simple dissecting instruments, costing not over \$2, will be

required. The cost of books will depend upon library facilities and individual needs, but need not exceed \$6. Mj. DR. STRONG.

6. Mammalian Anatomy.—The anatomy of the cat or rabbit, including thorough dissections of the muscular, circulatory, nervous and visceral systems. Recommended as a continuation of course 3 or 4 for teachers of zoölogy or as an independent course for those preparing for the study of medicine. It will be varied somewhat for these two classes of students. This course, if taken after course 3, will cover very nearly the ground of Course 13 in residence. (Informal.) Mj. PROFESSOR WILLISTON.

XXIV. PHYSIOLOGY

1. Elementary Physiology.—The course furnishes a survey of the ground covered in residence Courses 1 and 2. The aim is to acquaint the student with the fundamental physiological processes. The work will consist principally of readings in standard textbooks on physiology, with exercises based thereon, but in addition the student will be required to perform a number of simple experiments. The course will appeal to students desiring to meet college entrance requirements in physiology, to those who contemplate attending medical or dental schools, and to those who wish a general knowledge of this subject for other purposes. Mj. DR. GUTHRIE.

2. General and Special Physiology.—This course goes more deeply into the facts and theories of physiological processes. Extensive reading will be required. The different bodily processes will be discussed, and experiments will be made to demonstrate these processes. The course will appeal especially to teachers in high-schools and academies, and to students in colleges wishing advanced work in physiology. Following the plan in residence the work is divided into three majors.

A. *Physiology of Blood, Circulation and Respiration.* Mj.

B. *Physiology of Digestion, Metabolism, Absorption, Secretion, Muscles, and Heat.* Mj.

C. *Physiology of the Nervous System and the Senses.* Mj. DR. GUTHRIE.

XXVII. BOTANY

1. General Morphology of the Algæ and Fungi.—This course consists of twelve exercises covering the ground of the laboratory work of the twelve weeks' course given at the University. The fifty types studied represent all the main groups of algæ and fungi. In connection with a study of the structure, development, and relationships of the various forms, the principal problems considered are (1) the evolution of the plant body, (2) the origin and evolution of sex, and (3) parasitism, saprophytism and symbiosis. This is pre-eminently a course for beginners, but it is also adapted to the needs of teachers who, though acquainted with the older style of botany, desire an introduction to the more modern phases of the subject. The material in many of the types is sufficient for a class of eight or ten students. An additional fee of \$2.50 is charged for the material and the loan of preparations. The applicant must have access to a compound microscope with a low- and a high-power objective, the latter being a $\frac{1}{8}$, a $\frac{1}{6}$, or a $\frac{1}{4}$, preferably a $\frac{1}{6}$. Mj. ASSISTANT PROFESSOR CHAMBERLAIN.

2. General Morphology of the Bryophytes and Pteridophytes.—A course similar to the one in algæ and fungi, and requiring that course or its equivalent as a prerequisite. The structure, life-histories, and relationships of the liverworts, mosses, and ferns are studied in characteristic types. The principal problems considered are (1) the evolution of the sporophyte, (2) the reduction of the gametophyte, (3) heterospory, and (4) alternation of generations. A compound microscope is needed, as in course 1. There are needed for this work skillfully stained preparations, which necessitate a knowledge of microtechnique. Arrangements have been made whereby a limited number may secure a loan of the necessary preparations for a fee of \$2.50 in addition to the fee for material. No one should register without consulting the instructor. Fee for material \$2.50. Mj. ASSISTANT PROFESSOR CHAMBERLAIN.

3. General Morphology of the Gymnosperms and Angiosperms.—A course similar to the two preceding courses, and requiring both of them (or their equivalent)

as a prerequisite. Aside from a study of the structure and development of typical forms, the most important features of this course are: a study of spermatogenesis, oogenesis, fertilization, embryology, karyokinesis, and a brief survey of Engler's scheme of classification.

A compound microscope is needed, as in courses 1 and 2. No one should register without consulting the instructor. Fee for material and loan of the more difficult preparations, \$5. Mj. ASSISTANT PROFESSOR CHAMBERLAIN.

NOTE.—Courses 1, 2, and 3 are designed to give the student a comprehensive view of the structure, development, relationships, and problems of the plant kingdom. The development of a clear, bold style of scientific drawing receives attention in all of these courses.

4. Elementary Plant Physiology.—This course corresponds to Course 2 in residence. It aims to give the student a general knowledge of the life-processes of higher plants. The work will consist of experiments illustrating the different topics, together with assigned reading in a standard textbook. It is adequate to meet the needs of high-school teachers. For the experimental work little more apparatus will be needed than that found in the physical and chemical laboratories of the average high-school. A list of required articles will be furnished on application. Reports of both reading and experiments will be called for and will be returned with corrections. Mj. PROFESSOR BARNES AND DR. CROCKER.

5. Elementary Plant Ecology.—This course covers essentially the same ground as Coulter's "Plant Relations," and does not necessarily require previous botanical training though some work in plant analysis and in the study of plant structures is highly desirable. The object of the course is to present to the student the factors which influence the functions, form, and distribution of the common plants of his neighborhood. At first the different forms of leaves, stems, and roots are studied. Then the plant is taken as a whole, and the advantages given it in the struggle for existence because of a particular leaf, root, or stem structure, are considered. Under the subject of plant stems, the identification of the common trees is required. The work may be carried on entirely out of doors, and no microscope is required. Mj. DR. HOWE.

6. Laboratory Ecology.—This course is a continuation of course 5, being a microscopic examination of the structures studied in that course. It involves the careful study of the absorptive, conductive, synthetic, protective, and storage tissues of plants in relation to their functions. Special attention is given the variations of structures in so far as they depend upon changes in environment. Students who elect this course should have a knowledge of elementary botany, and should have access to a compound microscope. A knowledge of German is highly desirable. Fee for material and loan of slides, \$2.50. Mj. DR. HOWE.

7. Field Ecology.—This course is designed primarily for those students who have taken Elementary Ecology, and who desire to pursue further investigations along this line. The work consists very largely of definite and systematic study in the field. A floral area may be studied in its various internal and external relations, or a field problem may be made the object of study. (Informal.) Mj. ASSISTANT PROFESSOR COWLES.

8. Elementary Forestry.—The principal subjects covered by this course are: (1) the identification of trees by the use of keys and other helps; (2) the life-relations of trees, that is, trees as influenced by light, soil, temperature, wind, animals, and by the struggle for existence; (3) the composition and distribution of the forests of the United States, involving the making of distributional maps; (4) some economic aspects of forestry, namely the proper care and management of the forest studied, including plans for improvement, cuttings for reproduction, and for protection from fire. The field for study will be some limited area of forest to which the student has access. The course is designed as an introduction to work in forestry schools, although it will be equally valuable to those who desire to become acquainted with the life-history of a forest and with the more important forest problems. Mj. DR. HOWE.

9. Elementary Plant Anatomy.—A study of the tissues and tissue systems of vascular plants from the standpoint of phylogeny. This work is very different from the old anatomy in which facts were presented without any attempt to relate them to

each other. The course deals with the morphology and evolution of the vascular system, and is based upon a comparative study of representative juvenile and adult forms of Pteridophytes, Gymnosperms and Angiosperms. A microscope magnifying about four hundred diameters is necessary. An extensive knowledge of micro-technique is not essential. Directions for preparation of material and making of the necessary mounts will be given in the exercises. Fee for material and loan of slides, \$2.50. Mj. DR. LAND.

10. Methods in Plant Histology.—This course deals with the principles and methods of killing, fixing, imbedding, sectioning, staining, and mounting. The student must have access to a compound microscope magnifying at least 400 diameters, a microtome, and some other apparatus and reagents. A fee of \$2.50 is charged for plant material which is not readily collected at all seasons. No one should register without consulting the instructor. Mj. DR. LAND.

XXVIII. PATHOLOGY AND BACTERIOLOGY

ACADEMY

1. General Bacteriology and the Relation of Bacteria Yeasts and Molds to the Household, Dairy, Industries, and Agriculture.—This is primarily a culture course designed for those who do not wish to go to the expense of setting up a laboratory, and will consist of: (1) simple experiments at home; (2) examination and description of sealed cultures; (3) writing of themes on assigned subjects; (4) selected readings. This course commands only admission credit. Mj. DR. HEINEMANN.

2. Bacteriological Methods.—The following subjects will be covered: (1) principles of sterilization; (2) manipulation of the microscope; (3) role of bacteria in nature; (4) methods of growing bacteria; (5) methods of staining bacteria; (6) description of bacteria; (7) bacteriology of water and milk. The work will appeal especially to students preparing for the medical profession and to practitioners who wish to renew their knowledge of the subject. The applicant must have access to a compound microscope with a low power and high power objective. If all the apparatus is purchased it will cost approximately ten dollars exclusive of the microscope, but many of the parts can be extemporized. A complete set of the apparatus needed, packed ready for shipment, will be supplied for \$10. Course 1 is not prerequisite. Mj. DR. HEINEMANN.

3. Advanced Bacteriology.—Designed for those interested in some special branch of bacteriology, e. g., medical, sanitary, agricultural, etc. Students must consult the instructor before registering for the course. Prerequisite: course 1 or 2. Mj. DR. HEINEMANN.

XLI. OLD TESTAMENT LITERATURE AND INTERPRETATION

(SEE VIII. SEMITIC LANGUAGES AND LITERATURES)

XLII. NEW TESTAMENT LITERATURE AND INTERPRETATION

(SEE IX. BIBLICAL AND PATRISTIC GREEK)

XLIV. SYSTEMATIC THEOLOGY

1. Outline Course in Systematic Theology.—The course is intended to give a general acquaintance with the field of systematic theology, with especial reference to the problems which are today attracting chief attention. The first half of the course is devoted to a general introduction to the subject; the second half to the content of systematic theology. The contents of textbooks prescribed are to be carefully analyzed and criticized on the basis of questions and topics furnished by the instructor. Mj. ASSOCIATE PROFESSOR G. B. SMITH.

2. Christian Ethics.—This course attempts to set forth the moral aspects of the Christian religious experience. The psychological constitution of the moral disposition of the Christian is investigated. The Christian moral ideal is differentiated from the naturalistic theories of ethics set forth by the Greek philosophers and by

modern utilitarian and evolutionist schools, and from the theory of supernatural legalism as exhibited in Judaism. The moral motive power of the Christian, and the fundamental canons of moral judgment are discussed, with suggestions as to the method of determining duty in the various fields of human activity. The course thus serves as an introduction to the study of social ethics from the Christian standpoint. The work will be done on the basis of a syllabus with collateral reading. Mj. ASSOCIATE PROFESSOR G. B. SMITH.

3. Apologetics.—This course is intended to acquaint the student with the general outlines of a defense of Christianity. In the first place the content of Christianity which must be defended is sought on the basis of an historical study of the sources and history of Christianity. The ultimate elements of Christian faith are then defined and justified in the light of modern thought. Questions and topics suggested by the required textbooks are to be discussed in written papers by the student. Prerequisite: courses 4, 5, and 6 in the Department of Philosophy or an equivalent. Mj. ASSOCIATE PROFESSOR G. B. SMITH.

4. The Theological Significance of Leading Movements of Thought in the Nineteenth Century.—The philosophy of Kant and of Hegel, the theological principles of Schleiermacher and of Ritschl, Comte and the positive philosophy, the development of biblical criticism, and the rise of the philosophy of evolution, are the chief topics for study. The problems raised for theology by these movements will be carefully considered. Those taking the course should have access to an adequate library, or should be willing to incur considerable expense for books. Prerequisite: course 3 or an equivalent. (Informal.) DMj. ASSOCIATE PROFESSOR G. B. SMITH.

XLV. CHURCH HISTORY

1. Outlines of Church History.—A complete survey of the whole field of church history from the founding of the church in Jerusalem to the present time, with special emphasis upon the Ancient (100-800 A. D.) and Reformation (1517-1648 A. D.) periods. Some of the most important subjects that will come under investigation are: the conflict of the church with heathenism in the Roman empire; the rise and growth of the papacy; heresies, controversies, and parties within the church; the missionary expansion of the western church; the struggle between the papacy and the empire for supremacy; the rise and progress of the Reformation in Germany, France, Switzerland, England, and Scotland; and the recent development of the protestant churches in Europe and America. Mj. DR. GATES.

2. The Protestant Reformation.—Extent and state of Christendom at the opening of the sixteenth century; new forces that sweep away the old order of things; Zwingli, Luther, Calvin, as expressions of the spirit of the new era; estimate of the movement in its relations to the general historic process. Mj. ASSOCIATE PROFESSOR MONCREIF.

XLVI. HOMILETICS

1. The Art of Preaching.—This course corresponds to residence Course 1 and embraces a study of the character and purpose of the sermon, the methods of preparation, and the manner of delivery. The laws of effective popular discourse are studied inductively in connection with the preparation of sermons by the student. Mj. PROFESSOR SOARES.

NATURAL SCIENCE

SCHOOL OF EDUCATION

1. Elementary Field Work.—This course is based on out-of-door observations and experiences, and is intended, primarily, for those who wish to be able to identify and interpret the nature materials and phenomena of their region. It embraces the following general topics: (1) a description of the topography and general physical characteristics of the region to be studied; (2) the nature of the soil, subsoil, and rock materials of the area; (3) interpretation of any variations in mineral materials of the area and a study of the elementary principles of soil and rock formation; (4) the forces

which have moulded the topography of the area as evidenced by soils and rocks; (5) a study of the plant life of the region with reference to identification, distribution into plant societies, and the elementary factors of control in growth and distribution, including seasonal adjustments; (6) identification of animal forms common to the region, their habits and habitats, conditions influencing their habits and distribution, their influence upon the region. Topographic maps, areal maps, and soil maps of the state or United States geological survey, should be secured and used whenever available. Unidentified materials should be collected and forwarded for identification. The course covers the ground of Course 1 offered in residence. Students are advised not to register for this course during the Winter Quarter. Mj. MR. I. B. MEYERS.

2. Advanced Field-Work.—The work of this course will be directed towards a study of the region, considered as a whole, which lies within convenient reach of the student. It will involve a study of: (1) the physical subdivisions of the area as well as a study of the causes which have given rise to these subdivisions; (2) the physiographic history of the area, its genesis and development; (3) the present content of plant life with reference to the factors which have influenced its entrance, development, and distribution in the area; (4) the present content of animal life, including the factors which have influenced its entrance, development, and distribution in the area. The work presupposes of the student a fair academic knowledge of the principles of physiography, botany, and zoology. Mj. MR. I. B. MEYERS.

3. School Gardening and Elementary Agriculture.—The course is intended to include a study of the elementary principles of agriculture necessary to relate the activities of the school to the agricultural life of the country. These activities naturally center about the school garden; hence these studies include reading and experimental work on the following topics: (1) the planning and planting of the school and home grounds; (2) the place of the school garden, how it should be planned and related to the other departments of the school; (3) soils, their physical and chemical nature; (4) fertilizers, their composition and use; (5) the best plants for the school garden and the best methods of culture; (6) plant-breeding, its scope and results; (7) propagation from seeds, cuttings, and bulbs, in window boxes, hotbeds, and out-of-doors; (8) weeds, their identification and control; (9) plant-diseases and insect-enemies, their recognition and control; (10) the best trees for school and home grounds and how they should be planted; (11) window gardening in the school and home; (12) special problems in agriculture peculiar to the locality which need recognition and discussion in the school. The exercises are of such a nature that they make use of the material which may be available in any particular locality, while suggestions will be offered and assistance given in the study of local problems. Mj. MR. FULLER.

4. General Nature-Study.—The aim of this course is to meet the immediate needs of the teacher who is trying to gain acquaintance with the animal and plant life of his neighborhood. The material will be drawn from the out-of-door world, including plants, birds, and insects. The lessons will give simple statements about the form studied, and develop the student's observation through carefully selected questions. Collections of material from his locality will be asked for. The best ways of keeping living material will be treated carefully. A list of helpful literature will be given, wherever possible, so that the student may continue his work further when desired. Mj. MISS CHAPMAN.

NOTE.—If a special group of plants or animals is to be studied, or the student wishes at any time to leave the general work and follow out any phase of the subject, the opportunity will be given by making special arrangements.

DRAWING

The courses **Machine Drawing** and **Architectural Drawing** afford opportunity to begin the study of drawing, and to continue it to a point where a knowledge of higher mathematics—e. g., calculus, mechanics, etc.—conditions further progress. They cover the ground usually included in the first two years of study in the best technological schools. While open to anyone they will appeal especially to those who wish a thorough training in the fundamentals of the science, whether for immediate practical purposes in the office, shop, or classroom, or as a preparation for advanced technical study. One may begin any major of either of these courses for which he is prepared,

though in most cases it will be found advisable, if not necessary, to begin with the first major—*Freehand Drawing*. Admission to any major except *Freehand Drawing* will be conditioned on the approval of the instructor in charge, who will base his decision upon a statement and exhibit of previous work. Courses A and B each represent four years' work in the University High School. Courses C and D are intended for those who are qualified for advanced study. The University reserves the right to retain one drawing from the student's set in each major.

The courses offered are:

A. Machine Drawing

B. Architectural Drawing

C. Descriptive Geometry

D. Perspective Drawing.

The materials required in any major will be sent, express collect, upon receipt of the amount given, which is the lowest that can be quoted for a good quality. The weight of the case and the price of the textbook will enable the student to determine the exact cost of each major.

Material required in courses A1, B1.—Six sheets of Whatman's cold pressed paper, 22×30 inches; 8 sheets of chalk-talk paper, 14×20 inches; 3 Koh-i-noor pencils, 3H; 1 pencil eraser, No. 211; 1 dozen thumb tacks, steel-stamped, $\frac{3}{8}$ inch diameter; 1 box of French charcoal; 1 bottle of fixatif, two-ounce; 1 tin atomizer; 1 box "Star" chalks, six assorted colors; 1 drawing-board, 18×24 inches; and models of different solids.

Material required in courses A 2, 3, 4, 5, 6; B 2, 3, 4, 5, 6; C 1, 2, 3, 4; D 1, 2, 3, 4, 5, 6.—One drawing-board, 18×24 inches; 1 set drawing instruments in folding pocketbook style case, No. 4021; 1 T-square, mahogany, ebony-lined, fixed head, 24 inches; 1 amber triangle, 45°, 8 inches; 1 amber triangle, 30°×60°, 10 inches; 1 triangular boxwood rule, architect's, 12 inches; 1 flat boxwood scale, 6 inches, divided $\frac{1}{16}$ and $\frac{1}{32}$; 1 French amber curve, No. 1; 1 dozen sheets of Whatman's hot pressed paper, 22×30 inches; 6 Koh-i-noor pencils, assorted, 3H and 6H; 1 bottle each of Higgin's carmine, black, and blue ink; 1 dozen thumb tacks, steel-stamped, $\frac{3}{8}$ inches diameter; 1 Faber's pencil-eraser, No. 211; 1 Faber's ink-eraser, No. 2604; 1 Hardtmuth's soft pliable rubber, No. 12; 1 file, 4 inches; 1 pen-holder; 3 ball-pointed pens.

ACADEMY

A. Machine Drawing.—

1. *Freehand Drawing.*—This course gives that thorough training of the eye and hand which is requisite in sketching constructive data and in obtaining measurements. (a) Freehand projection, 4 drawings; (b) model drawing, type-forms, 5 drawings; (c) model drawing, groups, 6 drawings; (d) model drawing, light and shade, 6 drawings; (e) model drawing, color, 5 drawings; (f) model drawing, pen and ink; 4 drawings; (g) home sketch work, 2 drawings in each of the above subjects; in all, 42 drawings. No textbook is required. Cost of materials ready for shipment, \$3.50; weight of package, 15 pounds. Mj. MR. FERSON.

2. *Mechanical Drawing.*—(a) Preparatory work: this will include the use of instruments, laying out, penciling, inking-in, lettering; with practice work to learn accuracy of measurement and of line; 3 drawings. (b) Graphic geometry: this is intended to give the student a mastery of the various geometrical constructions which form the basis of all work in projection, descriptive geometry, and constructive drawing, whether mechanical or architectural; and at the same time to give facility in the use of the instruments; 6 drawings. (c) Projection: this will include the projection of points, lines, planes, and solids; 6 drawings. In all, 15 drawings. Textbook: Linus Faunce's *Mechanical Drawing*, \$1.35. Cost of materials ready for shipment, \$15; weight of package, 18 pounds. Prerequisite: course A 1 or its equivalent. Mj. MR. FERSON.

3. *Constructive Drawing.*—(a) Intersections, including conic sections, oblique sections, intersections, and developments; 6 drawings. (b) Shadows: the first angle projection of shadows: 3 drawings. (c) Isometric projections with projections of shadow; 3 drawings. (d) Oblique or cabinet projection; 3 drawings. In all, 15 drawings. Textbook and equipment for this course same as for A 2. Prerequisite: course A 2. Mj. MR. FERSON.

4. *Machine Details.*—This course is intended to familiarize the student with the various parts of machines that have come to be recognized as standards, and which are used in the construction of new machines. Standard sections for materials, fastenings, couplings, bearings, engine details, etc.; 10 drawings. Textbook: Low and Bevis's

Manual of Machine Drawing and Design, postpaid, \$2.50. The equipment for A 2 will suffice for this course also. Prerequisite: courses A 2 and 3. Mj. MR. FERSON.

5. *Gear Construction*.—Spur-gears, bevel, spiral, worm, elliptic, involute and cycloid teeth, hubs, arms, rims, etc.; 10 drawings. Textbook: George B. Grant's *Teeth of Gears*, postpaid, \$1.10; equipment: same as for A 2. Prerequisite: courses A 2, 3, and 4. Mj. MR. FERSON.

6. *Shop Drawing*.—(a) Machines from freehand sketches and measurement, details and an assembled drawing of some piece of machinery; (b) tracing and blue-printing. Five drawings with their tracings and blue prints will be accepted for this course; in all, 15 sheets. No textbook is required; equipment: same as for A 2. Prerequisite: courses A 2, 3, 4, and 5. Mj. MR. FERSON.

B. Architectural Drawing.—The architectural course gives the student a good working knowledge of the essentials in architecture; history, the orders, the principles of the designing of houses, office work in rendering, perspective, and detailing, together with tracing and blue-printing.

1. *Freehand Drawing*.—Same as A 1. Mj. MR. FERSON.

2. *Mechanical Drawing*.—Same as A 2. Mj. MR. FERSON.

3. *Constructive Drawing*.—Same as A 3. Mj. MR. FERSON.

4. *Architectural Details*.—(a) "The Orders," 10 drawings; (b) details of architectural construction from measurements; 2 drawings. In all, 12 drawings. Textbooks: Hamlin's *Architectural History*, postpaid, \$1.75; and American Vignola, "The Orders." Equipment for this course: same as for A 2. Prerequisite: courses B 1, 2, and 3. Mj. MR. FERSON.

5. *Architectural Design*.—(a) Domestic plans, from copy, 4 drawings; (b) design of some small building, 4 drawings; (c) tracings and blue prints, 4 tracings with their prints, 8 sheets. In all 16 drawings. Textbooks: same as for B 4; equipment: same as for A 2. Prerequisite: courses B 1, 2, 3, and 4. Mj. MR. FERSON.

6. *Pictorial Architecture*.—(a) Architectural perspective, 3 drawings; (b) architectural rendering in pen and ink, 4 drawings; (c) rendering in color and wash, 4 drawings; in all, 11 drawings. Textbooks: same as for B 4; equipment: same as for A 2. (In preparation.) Prerequisite: courses B 1, 2, 3, 4, and 5. Mj. MR. FERSON.

C. Descriptive Geometry.—This course is for those who wish to go into the higher mathematics, but have had no training in the graphic side of the subject. It will consist of:

1. *Mechanical Drawing*.—Same as A 2. Mj. MR. FERSON.

2. *Constructive Drawing*.—Same as A 3. Mj. MR. FERSON.

3. *Theoretical Graphics*.—Problems in points, lines, planes, and straight-surfaced solids; 15 drawings. Textbook: Church's *Descriptive Geometry*, postpaid \$2.65; equipment: same as for A 2. Mj. MR. FERSON.

4. *Practical Graphics*.—Curved and warped surfaces, shades and shadows, developments; 15 drawings. Textbook: same as for C 3; equipment: same as for A 2. Mj. MR. FERSON.

D. Perspective.—(1) *Parallel*; (2) *Angular*; (3) *Oblique*; (4) *Shadows*; (5) *Reflections*; (6) *Aerial*. (In preparation.) 6 Mj. MR. FERSON.

WOODWORK

Courses 1, 2, and 3 cover the woodwork done in first-class technical schools in joinery, turning, and pattern-making and, with the addition of course 4, represent the first two years of shop-work done in the University High-School. The work is adapted to the needs of students who wish to obtain advanced credit in technical schools, and to those who wish to prepare themselves to teach woodwork. The courses will also be useful to men working in shops who wish to fit themselves for more advanced positions. Course 4 will be of special value to those who wish to make articles of furniture for the home. Credit is given only for work inspected and accepted by the instructor. Hence, those desiring credit must send in their work by prepaid express. Articles sent for inspection will be returned at sender's expense if desired, though the University reserves the right to retain one article from the student's set in each major. The four courses offered are:

1. Joinery.

2. Wood-Turning.

3. Pattern-Making.

4. Cabinet-Making.

The necessary tools for each course will be sent, express collect, on receipt of price given. The price is as low as is consistent with good quality. The pupil will probably be able to procure the necessary material for his work in his own locality, but if not the instructor is prepared to assist him in securing them.

ACADEMY

1. Joinery.—Care and use of tools, planing, lining with gauge and knife, sawing to a line, chiseling, bench-hook, halved joint, open mortise and tenon, through mortise and tenon, keyed mortise and tenon, dovetail, box dovetail, keyed splice, doweled joint, bread slicer, and a carpenter's tool-chest. The bench recommended for this course is a regular single manual training bench. The top is made of $2\frac{1}{2}$ inch strips, glued together to prevent warping. The working top of the bench measures 48×20 inches, and is furnished with one regular and one tail vise. Its weight is 150 pounds. The price is \$7.50, or with drawer \$8.00. It must be sent by freight. While it is not absolutely essential that this bench be purchased, it is extremely desirable, because it is much easier to do good work on a strong, true bench than on a weak, shaky affair. This bench, or one as good, is also required for courses 3 and 4. If the pupil can purchase a suitable bench in his immediate vicinity, he can save freight by so doing. The tools for this course have been carefully selected, and their cost is \$10 per set. Their weight boxed is about 50 pounds. No textbook is required in this course. The work is sent in the form of drawings and lesson sheets. Prerequisite: course A 2 in Drawing. **Mj. MR. GIVENS.**

2. Wood-Turning.—Turning on centers, production of the various kinds of surfaces, chuck, faceplate and screw-center work, turning of slender pieces, polishing and finishing in the lathe. As it is thought that many who will wish to take this course will have or will be able to rent lathe and turning tools, prices are not given, but will be furnished on application. No textbook is required. Prerequisites: course 1 in Woodwork and course A 2 in Drawing. **Mj. MR. GIVENS.**

3. Pattern-Making.—The work begins with the study of a few of the simplest forms of patterns, and advances gradually to the more complex forms. Methods of parting and drawing patterns are discussed, also various ways of making core boxes and setting core prints. Patterns of wood, brass, iron, and plaster are considered. The examples taken up are so chosen as to cover a wide range of work and to bring out many of the difficult points encountered by the pattern-maker. The tools used in courses 1 and 2, with the addition of a few inexpensive hand-screws, will serve for this course. These hand-screws can be obtained at almost any general hardware store for about \$3. No textbook is required. Prerequisites: courses 1 and 2 in Woodwork, and course A 2 in Drawing. **Mj. MR. GIVENS.**

4. Cabinet-Making.—The pupil makes one or more articles of furniture of the arts-and-crafts or mission style, and various kinds of material and finish are considered. The bench and tools required are the same as those for course 1, with some others in addition, their number and kind depending on the articles made. It is thought that many will take this course merely for the sake of the articles made, but if credit is desired, the work must be sent to the instructor for inspection. Prerequisites: course 1 in Woodwork, and also course 2, if the student desires to introduce turned work into the articles made. **Mj. MR. GIVENS.**

MUSIC.

NOTE.—No credit is given for any one of the following courses. The tuition fee for each is \$16.

1. Outline History of Music.—A survey course, treating (1) of the natural growth of the elements and forms of music, (a) simple sounds, scales, melodies, harmonies, rhythms, (b) the art forms—the song, sonata, oratorio, opera, and symphony, (c) the development of musical instruments, (d) notation; and (2) of the biographies of individual musicians and the influence and characteristics of certain groups and nations. The course is planned to meet the needs, not only of students of music and professional musicians, but also of any who wish to increase their understanding and enjoyment of musical performance. **Mr. JONES.**

2. Elementary Harmony.—Scales, intervals, chords, four-part chord progressions; major and minor triads, inversions; the dominant seventh. Practical analysis of simple four-part tunes. **Mr. JONES.**

3. The Development of Song.—This course traces the growth of the art song from its crude beginnings in the rhythmical cries of savages. Folk songs—unconscious art; popular songs; the English ballad; the analysis of a modern song—text melody, rhythm, harmonies, accompaniment. The purpose of a song from the viewpoint of the text-author, the composer, the singer, and the listener. The contributions of nations and individual composers to song literature—Italian arias, German lieder, Schubert, Schumann, Franz, Brahms, Strauss, and others. Modern tendencies. MR. JONES.

4. The Use of Music in Worship.—This course includes the history of church music, and a practical discussion of the musical problems of ministers, choir leaders, and all who have to do with worship-music. The historical matter includes the music of the Hebrews, the Gregorian chant, the compositions of Palestrina and his contemporaries, the Catholic ritual, oratorio, psalmody, and the use of music in the English church. The modern problems considered include the purpose of music in worship; the kinds of music—impressive and expressive; the function of the organ; the kinds, cost, organization, and management of choirs; congregational singing; the ministers part in music. MR. JONES.

LIBRARY SCIENCE

1. Technical Methods of Library Science.—This is an elementary course designed especially for those who are already in library positions, and are unable to leave for resident study. It deals chiefly with cataloguing and classification, with a few general lessons on accessioning, shelf-listing, book-binding, gift work, periodicals, and loan systems. It is felt that no library training can be complete without personal familiarity with the "tools" of the profession and modern methods of work. Hence it is hoped that students taking this course will find it possible later on to supplement the work thus begun, by resident study at some library school. While credit is not given for correspondence courses in any such school, familiarity with library methods will make residence work easier for the student. As preparation two years of college training or its equivalent is required. Practical experience in library work will count much in the applicant's favor. The course consists of twenty-four lessons. Mj. MISS ROBERTSON.

THE ENGLISH THEOLOGICAL SEMINARY

I. GENERAL INFORMATION

The English Theological Seminary of the University of Chicago is intended to meet the needs of students who have not had the advantages of a college education and is open to all denominations of Christians. The applicant must present a ministerial license, or a certificate of ordination, or a statement from the church of which he is a member, approving of his purpose of devoting himself to the Christian ministry or other Christian service. He must also furnish the University when requested, with information concerning his church relations, etc. He will pay the University matriculation fee \$5 once, and \$3 for each English Theological Seminary course chosen. The reinstatement fee for each of these courses is \$2.

II. COURSES OF INSTRUCTION

NOTE.—No credit toward any degree is allowed on these courses. They count only toward the English Theological Seminary certificate. A description of any of the following courses will be sent on application.

1B. English Composition and Rhetoric	Mj.
2B. Homiletics.	Mj.
3B. Church History: Protestant Reformation.	Mj.
4B. Outline of Systematic Theology.	Mj.
5B. New Testament Times in Palestine.	Mj.

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The University of Chicago

FOUNDED BY JOHN D. ROCKEFELLER

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CORRESPONDENCE-STUDY DEPARTMENT

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THE CORRESPONDENCE-STUDY DEPARTMENT

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ADOLF CHARLES VON NOÉ, PH.D., Instructor in German Literature.

REUBEN MYRON STRONG, PH.D., Instructor in Zoölogy.

ERNST RUDOLPH BRESLICH, A.M., Instructor in Mathematics in the University High School.

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EARL BIXBY FERSON, Instructor in Drawing in the University High School.

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BERTHA PAYNE, PH.B., Instructor in Kindergarten Training.

IRA BENTON MEYERS, B.E., Instructor in the Teaching of Natural Science in the School of Education; Curator of the Museum.

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CARL HENRY GRABO, PH.B., Associate in English.
JENNEY HELEN SNOW, ED.B., S.B., Associate in Home Economics in the University High School.
ALLAN W. C. MENZIES, A.M., S.B. (Edin.), Research Associate in Chemistry.
DANIEL PETER MACMILLAN, PH.D., Extension Associate in Philosophy.
JOHN WILLIAM BAILEY, PH.D., Extension Associate in Biblical and Patristic Greek.
MYRON LUCIUS ASHLEY, PH.D., Extension Associate in Philosophy.
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HERBERT FRANCIS EVANS, A.B., D.B., Extension Assistant in Practical Theology.
ROWLAND HECTOR MODE, PH.D., Docent in Semitic Languages and Literatures.
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YOHEI TSUNEKAWA, A.B., Docent in Japanese.
ELMER KENDALL EYERLY, A.M., Fellow in Sociology.
JULIA JESSIE TAFT, A.B., Fellow in Philosophy.
EDWARD JAMES MOORE, A.M., Fellow in Physics.

III. GENERAL INFORMATION

The General Plan for Extra-Mural Teaching.—All non-resident work of the University of Chicago is conducted through the University Extension Division. The University extends its teaching beyond its classrooms in two ways: (1) By lecture-study courses: (2) by correspondence-study courses. The scope of the Correspondence-Study Department is explained in the following paragraphs:

1. **Teaching by Correspondence.**—Experience has shown that many subjects can be taught successfully by correspondence. *Direction* and *correction* can oftentimes be given as effectively in writing as by word of mouth. Obviously, self-reliance, initiative, perseverance, accuracy, and kindred qualities are peculiarly encouraged and developed by this method of instruction.

2. **Purpose and Constituency.**—Through the Correspondence-Study Department the University endeavors to offer as many as possible of the courses given in the classrooms of its different divisions so that those who have dropped out of high school or college may continue their studies. Besides contributing to culture, many of the courses, because of their bearing on problems of everyday life, may be turned to immediate practical account. One may choose any course or courses for which he is prepared. The aim is to offer to anyone anywhere the opportunity of securing helpful and stimulating instruction from specialists.

The work appeals, therefore, to the following classes: (1) students preparing for college or professional schools; (2) college students who are unable to pursue continuous resident study; (3) grammar and high-school teachers who cannot avail themselves of resident instruction; (4) teachers and others who have had a partial college course and wish to work along some special line; (5) instructors in higher institutions who desire assistance in the advanced study of some subject; (6) professional and business men who wish to supplement their training; (7) ministers and Bible students who would fit themselves better to use the Scriptures; (8) parents uncertain how to deal wisely with their children; in short, all who desire a broader knowledge or a more thorough scholarship.

3. **Method of Instruction.**—Each correspondence course is designed to be equivalent to the corresponding residence course, and contains therefore a definite amount of work. A *major* (Mj) calls for an amount of work which a student in residence would be expected to accomplish in twelve weeks, reciting five hours per week. A *minor* (M) calls for one-half as much work as a major. The resident student who does full work completes three majors every three months, but the correspondence student is allowed from twelve to fifteen months, according as he registers early or late in the quarter (or, if extension of time is granted, from twenty-four to twenty-seven months) for completing whatever number of major or minor courses he applies for (cf. § 6, *d* and *f*). On the other hand he is permitted to finish courses as rapidly as is consistent with good work. Courses are of two kinds, formal and informal.

a) The *formal* course furnishes a systematic and progressive presentation of the subject in a given number of lessons (cf. § 6, *n*). Each lesson contains: (1

full directions for study, including references to the textbooks by chapter and page; (2) necessary suggestions and assistance; (3) questions to test the student's methods of work as well as his understanding of the ground covered. After preparing for recitation the student writes his answers to the questions and mails them to the instructor, together with any difficulties which may have arisen during his study. This recitation paper is promptly corrected and returned. In like manner every lesson is carefully criticized by the instructor and returned, so that each student receives *personal guidance and instruction* throughout the course.

b) The *informal* course is designed for students who are pursuing studies of an advanced nature. The course is usually arranged between instructor and student to meet the particular needs of the latter. The formal lesson sheet is dispensed with, but the course is carefully outlined by the instructor, and the student is required to present satisfactory evidence that the work is being properly done. This evidence may consist of a number of short papers on special themes, a thesis covering the whole work, or it may partake rather of the nature of ordinary correspondence.

Courses are *formal* when not otherwise indicated.

4. **Admission.**¹—(a) No preliminary examination or proof of previous work is required of applicants for correspondence courses. Before matriculating or registering a student, however, the University does require certain information and reserves the right to reject applicants, or to recommend other courses than those chosen, if the data furnished on the application blank justify such action. If the applicant is rejected, or the substitution recommended is not accepted by the student, all fees are refunded. The application blank will be supplied upon request. *It should, in every case, accompany the fee for a new course.*

b) A correspondence student whose standing in one of the Colleges or Schools of the University has not been definitely determined is ranked as an *unclassified student*.

5. **Recognition for Work.**—(a) A certificate is granted for the satisfactory completion of the recitation work in any major or minor course.

b) Admission credit is given for courses covering college entrance requirements, which are satisfactorily completed and passed by examination.

c) College credit is given for courses of a college grade satisfactorily completed and passed by examination (cf. § 6, b, 1).

d) If the student has a record of residence work in the University, credits gained from correspondence courses are immediately transferred to that record; if not, they are held in the Correspondence-Study Department until the student secures such a record.

e) See also Regulations a) and b).

6. **Regulations.**—(a) The University of Chicago grants no degree for work done wholly in absence. A *minimum* of nine majors (one year's work) of resident study at the University of Chicago is required of everyone upon whom any degree, save the Master's (cf. § 6, b, 2), is conferred.

¹ If the student later comes to the University, he must satisfy admission requirements (see *Circular of Information of the Colleges*, pp. 7 ff.).

b) Correspondence courses are accepted as meeting the study requirement for the different degrees as follows: (1) The candidate for a Bachelor's degree (A.B., Ph.B., or S.B.) may do eighteen of the required thirty-six majors of college work, by correspondence. (2) The candidate for the Master's degree (A.M., Ph.M., or S.M.,) may not offer correspondence work for any of that required for this degree, inasmuch as the maximum resident time and study requirement for this degree (nine months and eight majors) does not exceed the minimum requirement for any degree. (3) The candidate for the Doctor's degree (Ph.D.) should consult the head of the Department in which his work lies before choosing correspondence courses *for credit*. Very few non-resident students command the necessary library or laboratory facilities for graduate study.

NOTE.—The University of Chicago's Bachelor degree, or its full equivalent, is prerequisite for admission to candidacy for a Master's or Doctor's degree. If a student presents an inferior degree he can make it equal to the University degree by means of correspondence courses and thus be free to devote his entire time in residence to graduate work (cf. § 6, a).

c) A student may begin a correspondence course at any time in the year.

d) A student will be expected to complete any course or courses *within one year from the end* (i. e., March 23, June 23, September 23, December 23) of the quarter in which he registers.

e) A student who, for any reason, does not report either by lesson or by letter *within* a period of ninety days, may thereby forfeit his right to further instruction in the course.

f) Extension of time will be granted: (1) *for a period equal to the length of time which a correspondence student spends in resident study at the University of Chicago*, providing due notice is given the secretary and the instructor both at the beginning and the end of such resident study; (2) *for one full year from the date of expiration of the course*, if, on account of sickness or other serious disability, the student has been unable to complete the course or courses within the prescribed time (cf. § 6, d), providing (a) he secures the consent of the secretary and his instructor, and (b) pays \$4 for each Major course or \$2 for each Minor course he wishes to continue. Private arrangement for extension of time between the student and his instructor cannot be recognized by the Department.

g) In order to secure credit for a correspondence course, the student must pass an examination on it at such time as is most convenient to himself and his instructor, either at the University or, if elsewhere, under supervision which has been approved by the University.

h) During an instructor's vacation a substitute will be provided, or the time for completing the course will be extended.

i) The fee for matriculation in the University (\$5) is required once, at the time of first registration, of each one who has not matriculated in the institution either as a residence or a correspondence student. The fee is general for the whole University.

j) No fee is refunded on account of a student's inability to enter upon or continue a course.

k) The matriculation fee will not be refunded to a student whose application has been accepted (cf. § 4, a).

l) The student must forward with each lesson, postage (or, preferably, a stamped, self-directed envelope) for return of same.

m) A student will be required to pay for but one major of a double major (DMj) course (e. g., Plane Geometry) at a time, unless he applies for both majors.

n) Ordinarily, a major consists of forty, and a minor of twenty lessons; but there may be variations from this number in order to accommodate the work to the requirements of a particular course. Each course represents a definite amount of work (cf. § 3), the number of lessons into which it is divided being incidental.

o) A course announced as a major may not be taken a minor at a time.

p) Each correspondence course is equivalent to the corresponding residence course, and commands credit unless definite statement is made to the contrary (cf. § 5).

q) All informal courses are majors unless otherwise indicated.

7. **Expenses.**—(a) All fees are payable in advance.

b) The matriculation fee is \$5 (cf. § 6, i); the tuition fee for *each* minor course is \$8; for one major course, \$16. If a student registers *at the same time* for two major courses the tuition fee is \$30; for three major courses, \$40. No reduction is made for minor courses taken simultaneously. A student registering for English Theological Seminary courses will pay the matriculation fee, \$5, and \$3 for each course taken. The tuition fee includes payment for the instruction sheets received. Textbooks which cannot be borrowed (cf. § 10) must be purchased by the student.

c) The student is required to inclose postage for the return of the lesson-papers (cf. § 6, l).

d) Money should be sent in the form of postal or express order or New York or Chicago draft, made payable to the University of Chicago. The Chicago clearing-house charges exchange on all other forms of remittance—15 cents on sums up to \$50.

8. **Method of Registration** (recapitulated).—(a) File with the secretary of the Correspondence-Study Department a formal application for *each* course desired. The required application blank will be furnished upon request (cf. § 4, a).

b) *Forward with the formal application the necessary fees:* (1) \$5 for matriculation, if not matriculated in the University (cf. § 6, i); (2) \$8 for each minor course, or \$16, \$30, or \$40, according as one, two, or three major courses are applied for; (3) an additional fee for certain courses in Physics, Chemistry, Zoölogy, Botany, and Bacteriology.

9. **Awards.**—(a) Scholarships.¹

CLASS A.—Three scholarships, each yielding tuition in residence for one quarter (\$40), are awarded annually on April 1 to the three students who have

¹ Scholarships are good for any quarter. Two minors are equivalent to one major. English Theological Seminary courses are excluded from competition.

begun, satisfactorily completed, and passed by examination the *greatest number* of major correspondence courses, but at least four, during the preceding twelve months. If two or more persons finish the same number of majors, the Scholarships are awarded in the order of the dates of the last examinations, beginning with the earliest.

CLASS B.—A scholarship yielding tuition in residence for one quarter (\$40) is awarded to a student for *every four* different major correspondence courses which he has begun since April 1, 1904, and satisfactorily completed and passed by examination.

10. *Books, etc.*—Textbooks, maps, etc., which are recommended for use in the various courses may be obtained through the University of Chicago Press, Chicago. Estimates and prices will be furnished on application. *In exceptional cases* some of these books may be borrowed from the University Library. Applications for loans should be addressed to the Librarian of the University of Chicago.

11. *Lecture-Study.*—Attention is called to the special circular relative to lecture-study work, which may be obtained on application.

IV. TOTAL REQUIREMENTS FOR THE BACCALAUREATE DEGREES

(Expressed in Majors)

	A.B.	Ph.B. (Lit.)	S.B.	Ph.B. (C. & A.)	Ed.B.
Philosophy, Psychology..	2	2	1	..	2
History.....	4	4	3	7	4
Political Economy, Political Science, History, Sociology.....	..	3 (or 4)	2	4	..
Greek.....	9	..	..	..	..
Latin.....	11	..	..	..	..
Latin, French, or German	..	14 (or 13)	6	13	6
French or German	4	..	4	..	4
English.....	8	8	8	8	8
In a single department...	..	6	..	..	6
Mathematics.....	6	5	6	5	5
Science.....	2	3	8	3	2
Mathematics or Science..	2	2	9	2	2
Electives.....	18	19	19	6	..
Professional Group....	..	..	..	18	..
Elective or Professional Group.....	..	..	..	..	27
	66	66	66	66	66

The total of 66 majors represents four years (15 units=30 Mjs) of high-school work and four years (36 Mjs) of college work. Any amount of the high-school work and as much as one-half of the college work (18 of the 36 Mjs) may be done by correspondence.

V. THREE PROGRAMMES OF HIGH-SCHOOL WORK

In the 15 units¹ of high-school work required for full admission to the University of Chicago, every student must offer at least—

3 units of English;

3 units of language other than English (Latin, French, German, Spanish);

2½ units of Mathematics.

The other 6½ units are more or less optional but if the student wishes to prepare for college work leading to—

1) the A.B. degree he should present instead of 3 units of language other than English, 4 units of Latin and 3 units of Greek, leaving only 2½ units optional.

2) the Ph.B. degree, he should present instead of the 3 units of language other than English, 5 units of Latin, French, German, or Spanish and 2 units of History, leaving only 2½ units optional.

3) the S.B. degree, he should present 3 units of Mathematics instead of 2½, 4 units of Latin, French, German, or Spanish, instead of 3, and 2 units of Science, leaving 3 optional.

CORRESPONDENCE-STUDY COURSES WHICH OFFER HIGH-SCHOOL WORK²

	UNITS
History—"Outline History of Antiquity to 337 A. D." (A and B)	1
Greek—"Elementary Greek" (A and B)	1
"Xenophon: <i>Anabasis</i> " (A and B)	1
"Homer: <i>Iliad</i> " (A and B)	1
Latin—"Elementary Latin" (A and B)	
"Caesar: <i>De Bello Gallico</i> " (A, B, and C)	2
(Provisional credit only is given for the two Majors of "Elementary Latin."	
This is made permanent when the two and one-half Majors of	
"Caesar: <i>De Bello Gallico</i> " are passed)	
"Vergil: <i>Aeneid</i> " (A and B)	1
"Cicero: <i>Orationes</i> " (A and B)	1
French—"Elementary French" (A and B)	1
"Intermediate French" and "Advanced French"	1
Spanish—"Elementary Spanish" and "Modern Spanish Novels and Dramas"	1
German—"Elementary German" (A and B)	1
"Intermediate German" and "Intermediate Prose Composition"	1
"German Idioms and Synonyms" and "Modern German Dramas"	1
English—The 3 required entrance units are not given, but one who passes "English Grammar," "Preparatory English Composition," and "Preparatory English Literature" should be able to pass the regular entrance examination in English which yields 3 units.	
Mathematics—"Elementary Algebra" (A and B)	1½
"Plane Geometry" (DMj)	1
"Solid Geometry"	½
Physics—"Elementary Physics" (A and B)	1
Biology—"General Zoölogy"	½
Physiology—"Introductory Physiology—A"	½
Drawing—"Freehand Drawing"	½ or 1
"Mechanical Drawing"	1

¹ A unit represents 150 hours of recitation. It is equivalent, as a rule, to two majors.

² These courses, when completed and passed, will be accepted in lieu of entrance requirements. Many of them will yield college credit if not offered for admission.

VI. COURSES OF INSTRUCTION

I. PHILOSOPHY

1. **Ethics.**—An introductory course intended (1) to familiarize the student with the main aspects of ethical history and theory, and through this (2) to reach method of estimating and controlling conduct. The main divisions of the course are (a) the general nature of moral conduct; (b) a study of the evolution of the moral problem from primitive life to the present; (c) a comparative study of current ethical theories; (d) application of the foregoing to present problems of social and individual life. Mj. PROFESSOR MOORE AND DR. ASHLEY.

2. **Logic.**—This course will cover practically the same ground as course in residence. The aim will be (1) to familiarize the student with logical processes (2) to afford training in careful and critical habits of thought; (3) to provide a substantial foundation for subsequent work in philosophy. The topics which will be considered are those usually included in a general survey of logic, such as the concepts, the various forms of judgment; deductive reasoning, including syllogisms and fallacies; inductive reasoning, including methods of inductive inquiry; the hypothesis; induction, fallacies, etc. Stress will be laid on the functional aspect of thought-processes, and attention will be called to certain underlying psychological principles. While "Elementary Psychology" is a helpful preliminary, the course may be taken with profit by those who are prepared for thorough study. The work will consist in the study of one or two standard textbooks, which will be supplemented as occasion requires by exercises and discussions. Mj. DR. ASHLEY.

3. **Greek and Mediaeval Philosophy.**—This course is designed (1) as a survey of the history of thought, considered in its relations to the sciences, to literature and to social and political conditions, and (2) as an introduction to philosophy through a more careful study of some of the most important systems. Special attention will be given to the study of the more important dialogues of Plato and to Aristotle's *Ethics*. Mj. PROFESSOR TUFTS AND MISS TAFT.

4. **Modern Philosophy.**—Descartes to Hume, with special study given to Descartes' *Meditations*, Locke's *Essay*, Berkeley's *Principles of Human Knowledge*, and a portion of Hume's *Treatise on Human Nature*. Mj. PROFESSOR TUFTS AND MISS TAFT.

5. **Introduction to Kant.**—Watson's *Selections* and Mahaffy and Bernadotte's editions of *The Critique of Pure Reason*, and Prolegomena, will be made the basis of the work. The course will be opened with a brief study of the thought of Leibniz, which Dewey's *Leibniz* will be used. This will be followed by a brief outline of Kant's early development, and a detailed study of the more important portions of *The Critique* as found in Watson's *Selections*. Prerequisite: course 4, or its equivalent. PROFESSOR TUFTS AND MISS TAFT.

6. **Movements of Thought in the Nineteenth Century.**—The course is a continuation of the history of modern philosophy, but is less technical and covers a wider field than the philosophical literature. A study of Rousseau will lead up to a rapid survey of Kant and the immediately succeeding German philosophers through Hegel. From them a return will be made to French thought of the time of the Revolution, then passing back to Goethe and then to England, where the Lake Poets and Carlyle will be passed in review, with corresponding review of Emerson and the American Transcendentalists. Finally, the relation of the natural and exact sciences to modern art, as well as the modern psychology to the present trend of thought, will be discussed. This course will necessarily be superficial, touching only upon the important moments in the development of thought during this century. Prerequisite: of the three courses 3-5. Mj. PROFESSOR TUFTS AND MISS TAFT.

IA. PSYCHOLOGY

1. **Elementary Psychology.**—This course takes up the general study of mental processes. It aims to train the student to observe the processes of human

experience and those of others, and to appreciate critically whatever he may read along psychological lines. It is introductory to all work in philosophy and pedagogy, and is an important part of equipment for historical and literary interpretation. Mj. ASSISTANT PROFESSOR CARR.

2. Advanced Psychology.—This course presupposes such a familiarity with the subject-matter of psychology as may be gained from course 1 or from intimate acquaintance with Angell's *Psychology*, James's *Briefer Course in Psychology*, Royce's *Outlines of Psychology*, Titchener's *An Outline and Primer of Psychology*, or Wundt's *Outlines of Psychology*. It may then properly be described as a continuation of the study or an *advance* upon an elementary presentation of the science with a view to further grounding in methods, and a reconsideration of some of its salient problems in the light of recent specialized studies. Mj. DR. MACMILLAN.

3. Psychology of Religion.—Three main topics will be treated: (1) The beginnings of religion in the race. Special subjects, primitive custom, ritual, taboo, sacrifice, prayer, animism, magic, myth; (2) the beginnings of religion in the individual, involving a study of adolescence, the types of religious experience, such as conversion and gradual growth; revivalism in the light of the psychology of suggestion compared with the educational process; (3) analysis of mature religious consciousness with reference to the nature and place of religious emotion and the character and function of religious ideas or concepts. Prerequisite: course 1 or its equivalent. Mj. ASSISTANT PROFESSOR AMES.

IB. EDUCATION

1. Principles of Education.—This course is designed to introduce students to the study of Education from a historical and scientific point of view. The readings are intended to arouse in the minds of the students some inquiries with regard to the possibilities of organizing the course of study in such a way that it shall be based upon psychological and sociological principles rather than mere tradition. Mj. PROFESSOR JUDD.

2. Educational Psychology.—A study of the fundamental psychological processes in their bearings upon educational problems. The changes which these processes undergo in the different "Stages of Development;" the *social aspects of experience and education*; the "Recapitulation" and "Culture Epoch" theories of the curriculum are important divisions of the course. Mj. PROFESSOR MOORE AND DR. ASHLEY.

3. Principles of Method.—The course includes (1) a study of concrete questions of method as exemplifying the psychological principles of instinctive behavior, habit formation, apperception, interest, practice, etc.; (2) a more detailed study of the conduct of the recitation for different kinds of lessons, such as study, discussion, drill, and appreciation lessons; (3) methods in some of the traditional school subjects, such as spelling and writing, in the light of scientific investigation of them; (4) questions of class management, discipline, larger aspects of the organization of instruction, testing results. Mj. ASSOCIATE PROFESSOR PARKER.

4. School Administration and Supervision.—This course is designed for superintendents, principals, and teachers who wish to prepare themselves for supervision and administration. The following questions will be taken up: (1) some essentials in school administration; (2) the purpose or aim of school supervision; (3) the relation of the superintendent to the school board; (4) the relation of the superintendent to the public; (5) the relation of the superintendent to teachers—(a) the increased demands upon teachers; the contributing causes, and how these demands may be met; (b) the necessity of standards of efficient work; (c) the appointment and promotion of teachers; (d) the means of improvement of teachers (teachers' meetings, professional study, courses of instruction, etc.); (e) teachers meetings; (f) school visitation; (6) the superintendent's relation to children—(a) the course of study; (b) "essentials" in education; (c) modifications of the course of study; (d) correlation of subjects; (e) the creation of desirable school conditions; (f) school hygiene; (g) classification and promotion of pupils; (h) tests; (i) special schools and individual pupils; (j) departmental schools; (7) the school principal; (8) waste in education;

(9) the best use of the superintendent's time; (10) the professional reading of superintendents and teachers. M. MR. KENDALL.

5. **The History of Education.**—This course covers in outline the history of education from savagery to the present time. The subject is presented in such a way as to enable the student (1) to gain clear conceptions of the relations of the ideals of an age to general industrial and social conditions; (2) to discover the successive steps in the development of educational theory and practice; and (3) to get a rich background for the evaluation of the various factors in the problems which command attention today. Emphasis is placed upon great movements rather than upon individuals. Eminent philosophers and educators are considered, but they are treated with reference to the movement to which they have contributed. Mj. DR. DOPP.

6. **A Comparative Study of the School Systems of Germany, England, and the United States.**—The course will trace the historical development of the existing systems of elementary and secondary education, with especial emphasis upon the characteristic ideals that have differentiated them, and upon present tendencies. Mj. PROFESSOR BUTLER.

7. **State and Municipal School Systems of the United States.**¹—A study will be made of certain state and city school systems, the attempt being to select a few examples of what may be regarded as the best types of organization of public education, and a few of the opposite character. The object in study will be, through acquaintance with what has been tried and proved, to arrive at as clear a judgment as may be as to what is fundamentally sound in organization and administration, and to note what modifications are required by local conditions. Mj. PROFESSOR BUTLER.

8. **Problems in Secondary Education.**—The course will discuss education as training for social efficiency; the intellectual, social, physical, and moral elements in education; adolescence; the high-school curriculum; handicrafts in secondary education; electives; the extension of the high-school course by the addition of two years; the school and the community; "the many-sided interest;" on sending boys and girls to college. The student will be expected to make a study of schools in his neighborhood and to make reports upon these schools, in relation to the general topics studied. Mj. PROFESSOR BUTLER.

9. **Elementary School Methods.**—History, nature-study, and mathematics will be considered in this course with reference (1) to the principles involved in selecting the subject-matter which is most valuable for primary, intermediate, and grammar grades; and (2) to methods of teaching which provide an opportunity for the full use of both body and mind. Typical modes of activity, such as dramatic play, modeling in sand and clay, drawing, painting, excursions, field-trips, experimental work, illustrative and real constructive work, and language, will be considered as means of providing first-hand experience which the child needs in order to understand the subject-matter which is presented in the form of symbols. Mj. DR. DOPP.

10. **Social Occupations in Elementary Education.**—This course is designed to meet the needs of those supervisors, principals, and teachers who are attempting to make room for practical activity as a regular feature of elementary education. It aims (1) to afford an insight into the principles of selection by means of which the educational value of the various occupations may be tested; (2) to present the most fundamental features in the development of social occupations among Aryan peoples; (3) to show the relation of the child's psychical attitudes to the serious activities of the race; (4) to indicate what modifications of the serious occupations of life that are introduced into the school are demanded by a recognition of differences due to (a) natural environment, (b) social needs, and (c) psychical attitudes; (5) to make a practical application of the results of this course to the work in primary, intermediate, and grammar-school grades; (6) to help the teacher gain information regarding the literature of the subject and the nature of the materials and apparatus required. Mj. DR. DOPP.

11. **Primitive Arts as Educational Means.**—This course treats of such typical arts as the dance and pantomime, the festival, music, poetry, the graphic and the plastic arts with reference to (1) their genesis, growth, and differentiation; (2) their

¹ Not given during 1909-10.

practical, intellectual, social, and aesthetic values; and (3) their significance in elementary education. Mj. DR. DOPP.

12. General Course in Child-Study.—This course aims to familiarize students with the known facts and established principles regarding child life. It reviews the principal problems investigated, the accepted present-day methods of collecting, standardizing, and presenting data, and the most important results of recent and contemporaneous work in their various bearings. Mj. DR. MACMILLAN.

13. An Introduction to Kindergarten Theory and Practice.—The aim of the course will be (1) to make a critical study of Froebel's means of development—his materials, songs, games, etc.; (2) to offer a preliminary study of children's imagery, interests, habits, etc.; (3) to illustrate Froebel's anticipation of the more recent child-study movement; and (4) to show the relation of Froebel's ideals to those of some of the earlier and later educational reformers. Mj. MRS. PUTNAM.

14. Froebel's Educational Ideals.—This course aims to trace the evolution of educational ideas that were organized into a working system by Froebel, to examine the theoretic side of that system through a study of the *Education of Man*, the *Pedagogics of the Kindergarten*, and *Mother Play Book*, and to study the relation of these theories to present educational thought. Mj. MISS PAYNE.

15. The Training of Children (for Mothers).—The special aim of the course will be to bring to the mother or teacher such practical knowledge of the fundamental laws of the growth and development of children as will be applicable in the home, beginning in the nursery and following through the periods of childhood and adolescence. It will treat of the problems of play, interest, habit, etc., and will aim to show how Froebel, the originator of the kindergarten, would make the child the chief agent in his own development, and at the same time offer a basis for an intelligent and willing obedience to law. The standards of, and reasons for, present educational methods will be discussed, that parents may judge discriminatingly of the school work which is being done by and for their children, and to determine whether it is really making for the best all-sided growth of the child. Mj. MRS. PUTNAM.

II. POLITICAL ECONOMY

1. Principles of Political Economy.—

A. This course aims to familiarize the student with the main conditions leading to the development of our present industrial system, and to explain the general economic laws governing the production, consumption, exchange, and distribution of wealth. Mj.

B. In this course the concrete economic problems of the day are discussed in the light of the general principles established in course A. Among the subjects treated are the following: Money and banking; protective tariff; monopolies and trusts; trade-unionism and labor legislation; socialism; government control of railroads; and taxation. Mj. MR. KENNEDY.

NOTE.—A and B are equivalent to courses 1 and 2 in residence and are required of all candidates for a degree in the College of Commerce and Administration, as well as for advanced work in Economics. Standard textbooks are used as a basis of study.

2. Economic History of the United States.—A general survey of the subject aiming to acquaint the student with the economic problems and forces as they developed and shaped the course of American history—a phase frequently neglected, but of fundamental importance for a proper understanding of the history of the American people. Among the main topics treated are: (1) colonial agriculture, industry, and commerce; (2) economic aspects of the Revolution; (3) the opening up and settlement of the West; (4) the public lands; (5) internal improvements; (6) railways and waterways; (7) slavery; (8) immigration; (9) the merchant marine; (10) foreign commerce; (11) the development of agriculture; (12) the rise of manufactures; (13) the growth of trusts and trade-unions. Mj. DR. WRIGHT.

3. Money.—The subjects considered in this course are: (1) the nature and function of money; (2) metallic money; (3) the theory of prices; (4) the nature and effect of credit; (5) paper currency and credit instruments; (6) monetary problems—bi-metalism and the gold standard, greenbacks, and national bank notes, the elastic

currency question, etc. Throughout the course emphasis will be placed on the practical side of monetary science. This course is intended for high-school teachers of economics, college students, bankers, business men, and all who wish to inform themselves on an ever-present question of basic importance in the economic world. Mj. PROFESSOR LAUGHLIN AND MR. DOWNEY.

4. Theory and History of Banking.—This course is the equivalent of course 52 in residence. It will make a study of the functions of a bank and of the principles governing note issue, deposit currency, loans and discounts, reserves, clearing-houses, the relation of banks to the government, branch banking, and exchange, and of other related topics. Much of the above study will be made inductively through a careful survey of the history and present status of banking, first, in England, France, Germany, Scotland, and Canada; and second, in the United States, including the First and Second Banks of the United States, state banks, and the national banking system. Special attention will be paid throughout the course to proposed modifications of the national banking system of the United States. Mj. PROFESSOR LAUGHLIN, MR. KENNEDY, AND MR. STEPHENS.

5. Trusts.—A discussion of the growth of the conditions which have made large business coalitions possible, the motives which have led to their formation, the conditions requisite to their successful operation, the character and extent of the advantages to be derived from them, the drawbacks and dangers which may be involved in their further growth, the chances of governmental guidance or limitation of their formation and of the exercise of their power, the feasible policy and methods that may be pursued in dealing with the trusts. Mj. DR. WRIGHT.

6. Trade-Unionism and Labor Legislation.—A historical and comparative study of trade-unionism and labor legislation in the United States and foreign countries. Among the topics treated in this course are the following: causes of the formation of trade-unions; nature of trade-union organization; relations of trade-unions with employers—collective bargaining, strikes, boycotts, lockouts, arbitration, conciliation, etc.; trade-union policies—minimum wage, normal day, apprenticeship system, etc.; legal status of trade-unions; factory legislation; employers' liability; workingmen's insurance. Mj. MR. KENNEDY.

7. Railway Transportation.—The economic, financial, and social influences arising from the growth of modern railway transportation, especially as concerns the United States, will be discussed. An account of the means of transportation developed in Europe and America during the early part of this century; the experiments of the states in constructing and operating canals and railways; national, state, and municipal aid to private companies; the rapid and irregular extension of the United States railway system; the failures of 1893; the reorganizations and consolidations since that time, with some attention to railway building in other countries, will form the historical part of the work. A discussion of competition, combination, discrimination, investments, speculation, abuse of fiduciary powers; state legislation and commissions, and the Inter-State Commerce Act, with decisions under it; and the various relations of the state, the public, the investors, the managers, and the employees, will form the most important part of the work. This course gives a general view of the subject. Mj. ASSOCIATE PROFESSOR MARSHALL.

8. Problems in American Agriculture.—This is a study of modern farming, especially with reference to its organization on a scientific and economic basis. The subjects treated include: the place of agriculture among industries; movements of rural population—to the West, to other industries; land grant and homestead policies; systems of land tenure; maintenance of soil fertility; economic production on dairy, beef, sheep, grain, cotton, grass, fruit, poultry, and truck farms; transportation of farm products; the agricultural market; competition of other countries; price movements of farm products; agriculture and the state; co-operation in agriculture; the farmer's ideal. This course will appeal to prospective and progressive farmers and to teachers and others interested in a study of practical agriculture. Mj. ASSOCIATE PROFESSOR HILL AND MR. EYERLY.

¹ Not given during 1900-10.

9. Modern Socialism.—In this course a careful study is made of modern socialist theories, especially those of Karl Marx. In addition to the theoretical work a study is made of the growth and development of the Socialist Party in Germany, France, England, Austria, Italy, and other European countries as well as in the United States. Among the topics treated in this part of the course are the causes of the growth of socialism in various countries; the relation of the socialists to the trade unionists; the platforms and programmes of the socialist parties; and the reforms already accomplished by the socialists in the countries where they have attained considerable power. Mj. MR. KENNEDY.

ACCOUNTING

10. Bookkeeping.—This course is a full treatment of the principles of bookkeeping. Its purpose is to acquaint the student with the theory and nature of accounts. The subjects treated will be (1) forms of accounts, (2) books used in accounting, (3) mode of handling commercial papers, (4) the recording of transactions, and (5) double-entry methods in retail business. The principles presented will be practically illustrated by a series of transactions which the student will be required to enter in a set of forms which accompany the textbook required in the course. Prerequisite: a working knowledge of arithmetic. [This course does not command credit.] Mj. MR. ARNETT AND MR. KEEN.

11. Partnership and Wholesale Accounting.—This course follows course 10, and is designed for students who have completed that course, or who are familiar with the principles of bookkeeping which are therein enunciated. Partnership accounts are introduced and explained; profit or loss is carried to the partners' accounts, and the books closed. The accounts pertaining to a wholesale business are then taken up, and in addition to the books previously studied, special attention is given to the invoice book, the sales book, and sales ledger, and bills receivable and bills payable books. A brief consideration of costs is given, and a comparison is made of the sales and costs of the several departments in the business. As in course 10, the student will be required to do practical work in recording transactions and handling the papers pertaining thereto. Mj. MR. ARNETT AND MR. KEEN.

12. Corporation Accounting.—In this course will be studied the formation of corporations; the conversion of a partnership into a corporation and the treatment of good-will; the special accounts and books used in corporation accounting; the manner of issuing, transferring, and canceling stock; the making of forms of balance sheets, and a study of the items composing the same; the income accounts; the declaring and payment of dividends; reserve fund; depreciation, surplus, and the closing of the books for the year. The student will be required to do practical work illustrating the above principles; and in connection with the references given to prepare papers on the special topics. Prerequisite: course 10, or its equivalent. Mj. MR. ARNETT AND MR. KEEN.

III. POLITICAL SCIENCE

1. Civil Government in the United States.—This course is an analysis of the structure and working of government in the United States, with some examination of the historical development of existing forms. Mj. MR. BRAMHALL.

2. Political Parties.—In this course the organization and methods of action of political parties in the United States are considered. The various types of primaries, the legal regulation of primaries, the organization and procedure of conventions, the conduct of the campaign, the organization of party machinery, the workings of the organization, the function of parties, are the principal topics discussed. Mj. ASSOCIATE PROFESSOR MERRIAM.

3. Comparative Politics.—

A. Comparative National Government.—This course is a comparative study of the systems of government in the leading nations of the world. Particular attention will be given to Germany, France, Great Britain, and the United States, with incidental reference to other countries presenting features of especial importance. The structure of

the governments, the constitutional functions of the various departments, and the actual workings of the systems will be examined. Mj.

B. *Municipal Government*.¹—This course is a comparative study of the modern municipality, American and European, in its legal, constitutional, and administrative aspects. Special consideration will be given to the questions of municipal home rule, municipal ownership, and municipal politics in leading cities of Germany, France, England, and the United States. Prerequisite: course 1 or its equivalent. Mj. ASSOCIATE PROFESSOR MERRIAM AND MR. BRAMHALL.

4. *Elements of International Law*.¹—A study of the rules observed by civilized nations in their relations with each other. The course includes a general consideration of the history and development of international law and a more detailed study of the subject in its three fundamental divisions of peace, war, and neutrality. Some of the topics treated are the nature, sources, and divisions of international law; the intervention of one nation in the affairs of another; the rights and duties of nations in connection with property; the extent and nature of a nation's jurisdiction over its territory, subjects, and public and private vessels; the rights and duties of diplomacy; modes of warfare; recognition of belligerency; effect of war on treaties; rules of war on land and sea; rights and duties of neutral states; blockade; contraband of war; etc. The course is not strictly technical in character, and should prove of value to those desiring a better understanding of current international affairs, as well as to lawyers and teachers of history and political science. The work will be based on a standard text, supplemented by a book of cases on international law. Mj.

NOTE.—Related courses will be found under Departmental Nos. II, IV, and VIA.

IV. HISTORY

ACADEMY

1. *Outline History of Antiquity to 337 A. D.*—The ground of ancient history with which students entering college are expected to be familiar, is covered. A and B together satisfy the entrance requirement in history. The suggestions for study are made very definite as helps to beginning students and as an outline of work for high-school teachers.

A. *Oriental and Greek History to 146 B. C.*—A general narrative and descriptive history of Greece to the Roman conquest, with a brief introductory sketch of the oriental nations that especially influenced Greek civilization. Mj.

B. *Roman History to 337 A. D.*—A general view of Roman history from the early Republic to the establishment of the later Empire in the fourth century, paying special attention to the government and institutions of the latter as a basis for an intelligent study of the mediaeval period. Mj. MISS KNOX.

COLLEGE

2. *History of Antiquity to the Fall of the Persian Empire.*—In this course the history of the nations of the ancient East—Babylonia, Egypt, Assyria, Syria, Israel, etc.—is studied in its development from the beginnings of organized political life to the fall of the world-empire of Persia. A large amount of reading is expected of students. Mj. MISS KNOX.

3. *History of Greece to the Death of Alexander.*—This course presupposes a general knowledge of the external facts of Greek history (course 1A), and undertakes to conduct the student into an investigation of the underlying principles and forces which condition the outward events. It is intended for those who wish to go thoroughly into the subject, and are willing to give their time and thought to it. Mj. MISS KNOX.

4. *History of England to the Accession of the Tudors.*—Early Britain, its Romanization, the settlements of the invading German tribes, the struggle for supremacy, the union of England under Wessex, the Norman Conquest, the struggle

¹ Not given during 1909-10.

of the people for constitutional rights, civil and foreign wars, and the beginning of the Renaissance in England, will be studied. Mj. MISS KNOX.

5. England from Henry VII to Edward VII (1485-1900).—Special emphasis will be placed upon the history of the Reformation, the struggle between king and parliament, English society and civilization, colonial expansion and the growth of democracy in the nineteenth century. Mj. MISS KNOX.

6. Outline History of Mediaeval Europe (350-1500).—The invasion and settlement of the barbarians, the revival of the empire, the growth of the papacy, and the struggle between those two, Mohammed and his religion, the Crusades, the rise of nationalities, mediaeval institutions, and the Renaissance, will be studied. The needs of the teacher as well as those of the general student are met in this course. Mj. MISS KNOX.

7. Outline History of Modern Europe (1517-1900).—The principal topics treated are: the Reformation, the religious wars, the struggle for constitutional liberty in England; the ascendancy of France under Louis XIII and Louis XIV; the rise of Prussia, England's colonial supremacy; the era of the French Revolution and Napoleon; the period of reaction and the Revolutions of 1830 and 1848; the unification of Italy and of Germany; England and Russia in the nineteenth century; the Near and Far Eastern Questions; and a concluding summary of the progress of civilization in the nineteenth century. While the primary object is to give the student a knowledge of the political history of the period, due attention is paid to the economic, social, and religious movements that are essential to this object. This course will be helpful to teachers as well as to students of history. Mj. MISS KNOX.

8. Europe from 1517 to 1648.—This course is a study of the causes, events, and results of the Reformation in Europe. Much attention will be given to the political, social, and economic phases of the movement, the inseparable religious questions being discussed only so far as is necessary to an understanding of the period. Mj. MISS KNOX.

9. The French Revolution and the Era of Napoleon.—The ground will be cleared for the history of the period by a careful study of the institutions of the Old Régime, in which the remoter causes of the Revolution will be discovered. A consideration of the more immediate causes and the attempts at reform will introduce the Estates General. The Revolution ran through three periods, which answer to the National Assembly, the Legislative Assembly, and the Convention, to the extreme of a Red Democracy. Three more periods, corresponding to the Directory, the Consulate, and the Empire, see France return to a military absolutism under Napoleon. The greatest emphasis will be laid upon the institutional changes induced by the French Revolution, and attempt will be made to show the constructive work of the Revolution and of Napoleon. Its importance as one of the greatest generic events of the world's history will give the course a significance wider than France alone. It is desirable that the student be familiar with the outlines of modern European history. Mj. ASSOCIATE PROFESSOR THOMPSON.

10. Europe in the Nineteenth Century (1815-1900).—The following topics indicate the scope of the course: the attempt to govern Europe according to the reconstruction of 1815; the agitation for popular government in France, Italy, and Germany; the revolutions of 1830 and 1848; France under Napoleon III; the growth of German and Italian unity; the establishment of the German Empire, of the dual system in Austria-Hungary, and of the Third French Republic; national development and international relations since 1870. The course presupposes an outline knowledge of the French Revolution and the Napoleonic epoch. Students who have not recently studied this period will be expected to prepare themselves by a careful reading of some manual, such as J. H. Rose's *The Revolutionary and Napoleonic Era*, or H. Morse Stephens' *Revolutionary Europe*. Mj. ASSISTANT PROFESSOR WARREN.

11. Outline History of Civilization.¹—This course consists of two majors, each containing twenty lessons. The first major begins with the History of Greece and

¹ Not given during 1909-10.

follows the various phases of development through Roman history to the rise of the German Empire in the early part of the Mediaeval period. The second major treats of the later Middle Ages, of the Renaissance, and of modern times till close upon the French Revolution. In each division the study will proceed mainly on the four lines: (1) government in its connection with political and constitutional history; (2) social life as it is shown in the family relations and the attitude of the classes toward each other; (3) economic progress, particularly with regard to cultivation, commerce, and communication; (4) higher culture and art. The course is planned with the purpose of developing the taste of the student for careful, comprehensive reading, cultivating his reasoning, and broadening his view of both history and life. Acquaintance with the facts of history is presupposed. The student will be expected to do a great deal of reading, and should have access to a rather well-equipped library. DMj. DR. WERGELAND.

12. Chief Features of the Progress of Civilization in the Nineteenth Century.¹

—This course affords a rapid survey of the causes which have led to the vast enlargement of ideas and scope of life witnessed during the century just closed. The causes are many and varied, but, for the sake of comprehensiveness, may be grouped under three headings: (1) *political* changes during and after the French Revolution, such as the growth of public liberty, the recognition of the rights of the individual, the prevalence of popular representation, the struggle against disqualification, whether social, economic, or religious; (2) *social* changes, manifested in the leveling of class-distinction, the rise to prominence of a rich middle class, the popularizing of the church, the growth of brotherhood, the prominence of public opinion, the enlightenment of the masses; (3) *economic* changes, such as the development of material resources, the growth of capitalistic enterprise, the claims of labor, increase of transportation, the development of a world-market, investigation into the cause and effect of commercial disturbances, and many others; all in connection with, or parallel to, the growth of science, the spread of education and freedom of thought, and the development of methodical inquiry. The course is divided into two majors, the first being concerned more with political changes, the second with the social and economic phases of development. The work will be better appreciated by those who have taken course 11, "Outline History of Civilization," though it can be satisfactorily pursued by those who have not had that course. Access to a well-equipped library is important, although not imperative to the success of the work. DMj. DR. WERGELAND.

AMERICAN HISTORY

GROUP I

NOTE.—The courses in American history fall into three groups: first, an outline course (13), second, a series of four courses (14-17) covering, in a more thorough manner, the entire field; third some specialized courses on selected topics or periods (18, 19). The student is advised to take the courses of the second group in sequence. In this way he will greatly economize the expenditure for books, since successive courses require the same textbooks to some extent. Graduate credit may be obtained in courses 14, 15, 16, and 17, by properly prepared students who have access to sources and original documents and who do additional advanced work under the direction of the instructor.

13. *Outline History of the United States from Colonization to the Present Time.*—Colonial history will be considered very briefly, while the period from 1763 will be emphasized and an acquaintance made with some of the important documents and sources of American history. It will be especially helpful to high-school teachers. Mj. MISS KNOX.

GROUP II

14. Colonial Period (1492-1763).—

A. *Discovery and Colonization.*—The course deals with the American aborigines, the causes and motives leading to the discovery of America, the voyages and journeys of the discoverers, the claims arising from these explorations, the growth of geographic knowledge, and the founding of the English, French, Spanish, Dutch, and Swedish Colonies. M.

B. *Colonial Institutions and History.*—This course begins with a study of the political institutions of the American colonies. English colonies receive most attention,

¹ Not given during 1909-10.

but those of other nations are also considered. The chief events of colonial history are then considered, with especial reference to the relations between the English colonies and the mother country. The course concludes with a survey of the struggle for supremacy in North America, ending with the final triumph of the English in the Seven Years' War. M. ASSISTANT PROFESSOR WARREN.

15. The Formation of the Nation (1763-1789).—

A. *The American Revolution (1763-1783).*—The following topics show, substantially, the content of the course: the territorial, political, and economic condition of the English colonies in 1763; the new policy of the English government; the development of colonial opposition; the constitutional and philosophical arguments on both sides; the beginning of hostilities; the Declaration of Independence; the progress of the war; Congress as a governing body; the Loyalists; French and Spanish intervention; Washington's triumph; the preliminaries and terms of peace of 1783. M.

B. *Confederation and the Constitution (1783-1789).*—The following topics are treated: the results of the Revolutionary War; the government under the Articles of Confederation; the organization of the western territory; interstate controversies; problems of diplomacy and foreign trade; violations of the treaty of peace; paper money; the Shays Rebellion; the Constitutional Convention; analysis of the Constitution; the process of ratification. M. ASSISTANT PROFESSOR WARREN.

16. The Growth of the Nation (1789-1861).—

A. *Foreign Politics and National Expansion (1789-1829).*—Beginning with the organization of the national government, the course deals with the policy of the Federalist party in foreign and domestic politics and the rise of the Democratic opposition. The broad and strict constructions of the Constitution are carefully studied. Further topics are the fall of the Federalists; Jefferson's policy; annexation of Louisiana; experiments in neutrality; and the causes, progress, and results of the War of 1812. The course concludes with a survey of the political and economic reorganization after the war, including western expansion, the Missouri Compromise, the Monroe Doctrine, and the triumph of the Jacksonian democracy. M.

B. *The Strife of Sections (1829-1861).*—This course opens with a study of Jackson's administration—the civil service, tariff, nullification, bank, etc. Slavery then becomes the dominant issue. The chief topics are slavery as a system; the anti-slavery movement; Texas and the Mexican War; the Compromise of 1850; the Kansas-Nebraska question; the Dred Scott case; the rise and final triumph of the Republican Party; and the consequent secession of the southern states. M. ASSISTANT PROFESSOR WARREN.

17. Consolidation and Expansion (1861-1904).¹—

A. *Civil War and Reconstruction.*—M.

B. *Political and Economic Centralization—The Nation as a World-Power.* M. ASSISTANT PROFESSOR WARREN.

GROUP III

18. Social Life in American Colonies.—A study of the life and institutions of ante-revolutionary times as preparatory to a correct understanding of our national history. This course is based upon Lodge's *A Short History of the English Colonies in America*, with collateral reading. M. ASSOCIATE PROFESSOR SHEPARDSON.

19. Problems of the Civil War and the Reconstruction Period (1861-1881).—A study of some of the special questions, military, political, constitutional, and social, arising in connection with the Civil War and the readjustments which followed. This course is intended for advanced students and cannot be taken with advantage unless there is access to a good library. Mj. ASSOCIATE PROFESSOR SHEPARDSON.

SCHOOL OF EDUCATION

20. History for Primary Grades.—This course is designed for teachers in primary grades and also for supervisors and principals. It aims (1) to show the

¹ Not given during 1909-10.

principles upon which subject-matter should be selected for the children of the lower grades; (2) to assist the teacher in outlining a course of study; (3) to give practical help in methods of presenting subjects to children; (4) to show the relation which a course of study in history should bear to the social occupations of the school. The course treats of the following topics: primitive, industrial, and social life; local history; civics; constructive work; children's literature. Students who are teaching in primary grades may modify their work to make it of practical assistance in their own schools. The course covers the ground of course 2 in residence. Mj. ASSOCIATE PROFESSOR RICE.

21. Teachers' Course in American History.—This course is intended for teachers in the upper grades of the elementary schools. It gives a brief study of colonial history and of the Revolutionary war, and a fuller treatment of the period of westward expansion. The effects of geographical environment upon occupations and of occupations upon social life and government are emphasized. The course corresponds to course 3 in residence. Mj. ASSOCIATE PROFESSOR RICE.

VI. SOCIOLOGY AND ANTHROPOLOGY

SOCIOLOGY

1. Introduction to Sociology.—A study of the phenomena of social life; the basis of society in nature; the social person; social institutions; and social psychology, order, and progress. The course is designed to give an introduction to theoretical and practical sociology, and to systematize the reading, observation, and thinking of advanced students. The order of thought will be that of Henderson's *Social Elements*, and bibliography will be added according to the need of each student. Mj. DR. MACLEAN.

2. Introduction to the Study of Society.—This course is designed to afford a synthetic view of social phenomena, and to furnish the student with a scientific method for the study and correct understanding of ordinary human association. Considerable attention will be paid to local studies as a means of amplifying the text. The aim is to have the course serve as an introduction to the special social sciences. Mj. DR. MACLEAN.

3. Elements of Industrial History.—The aim of this course is to acquaint the student with the salient facts of American industrial history and to furnish a foundation for those who wish to do further work in economics or sociology. Selected industries will be studied in detail and their evolution discussed. A course for practical people as well as for students. Mj. DR. MACLEAN.

4. Social Debtor Classes.—A course for practical social workers and supporters of social amelioration. As the starting-point, is taken the particular work in which the student is engaged, and an attempt is made to discuss various forms of preventive and constructive social work from the standpoint of the relief visitor, city missionary, alienist, contributor, or lay student, as the case may be. Texts are chosen with a view to the reader's special needs, and illustrations are based upon his local, county, and state institutions. At least one text on theoretical sociology is read. The chief aim of the course is to give occasion for the reader to analyze, classify, and describe his own environment and his own experience and observation. Mj. DR. MACLEAN.

5. Modern Cities.—A study of the development of cities, with special reference to American municipalities, their physical conditions, public services, political, industrial, and social groupings. Mj. DR. MACLEAN.

6. Rural Life.—This course aims both to give a general survey of the conditions and relations that characterize the rural population as a whole, and also to make a special study of typical rural families with reference especially to the nature of their work, the character of their homes, and the social influences of the community life. The various agencies to improve the means of communication, the homes, the schools, the church, and the general well-being, will be emphasized. Mj. PROFESSOR HENDERSON AND MR. EYERLY.

7. Contemporary American Society.—A general survey of social conditions in the United States, dealing with the character and distribution of population, religious divisions, economic groupings, the educational system, the press, political machinery, etc. On this basis certain generalizations as to influences now at work, the social ideals of various classes, etc., will be considered. (Informal.) Mj. PROFESSOR VINCENT.

ANTHROPOLOGY

8. General Anthropology.¹—An introductory course treating of the origin, antiquity, distribution, and early occupations of man and of the sources of language, religion, the arts, and social relations. Mj. ASSOCIATE PROFESSOR STARR.

9. Origin of Social Institutions.—Treats of association in the tribal stage of society; the origin and relations of invention, trade, marriage, class distinctions, government, art, and the professions; and the ethnological and anthropological basis of sociology. (Informal.) Mj. ASSOCIATE PROFESSOR THOMAS.

10. Primitive Social Control.—A study of primitive juridical and political systems, and of social conventions; e.g., the family; clan; tribal and military organizations; totemism; tribal and property marks; tabu; personal property and property in land; periodical tribal assemblies and ceremonies; secret societies; medicine men and priests; caste; blood-vengeance; salutations; gifts; tribute; oaths; and forms of offense and punishment among typical tribes of Australia and Oceania, Africa, Asia, and America. (Informal.) Prerequisite: course 9. Mj. ASSOCIATE PROFESSOR THOMAS.

VIA. HOUSEHOLD ADMINISTRATION

1. House Sanitation.—This course offers a comprehensive and practical study, based on scientific principles, of the sanitary aspects of the home. Among the topics treated are the choice of building site, construction and care of cellar, drainage, plumbing, heating, lighting, furnishing, and cleaning. Mj. PROFESSOR TALBOT.

2. Foods and Dieteries.—A course in practical dietetics covering the study of the composition of foods, scientific principles of preparation, and their combination in dieteries from an economic and physiological standpoint. Mj. PROFESSOR TALBOT.

3. Administration of the House.—This course will consider the order and administration of the house with a view to the proper appointment of the income and the maintenance of suitable standards. Changes in household industries in the light of modern economic and social conditions, and sanitation, will be studied. The domestic service problem will be investigated. Mj. PROFESSOR TALBOT.

4. The Organization of the Retail Market.—An elementary course intended to familiarize the student with the machinery of trade with which the householder comes into direct contact. The following topics will be considered: the development of present methods of distribution from mediaeval forms; the present specialized system, as illustrated by selected industries, which deal with food, clothing, and household equipment; the departmental and catalogue store; and the employment agency as the means by which a distribution of domestic labor is effected. Prerequisite: nine majors (1 year) of college work. Mj. ASSISTANT PROFESSOR BRECKINRIDGE.

5. The Consumption of Wealth.—Standards of living; necessities for life and for efficiency; comforts; luxury and extravagance; saving and spending. Organized efforts among consumers to control production; co-operation; the Consumers' League; trade-unions; legislation; municipalization. Prerequisite: nine majors (1 year) of college work. Mj. ASSISTANT PROFESSOR BRECKINRIDGE.

6. The State in Relation to the Household.—A course intended to review relations between the householder and the public, as represented by federal, state, and municipal authority. The law requiring the head of a family to furnish support, and legislation tending to maintain the unity of the family will be considered. Regulations

¹ Not given during 1909-10.

concerning the food supply, the materials used in clothing and furnishings, and the structure and care of the building will be studied in order to formulate the principles upon which a proper degree of individual freedom may be adjusted to the necessary amount of public control. Mj. ASSISTANT PROFESSOR BRECKINRIDGE.

NOTE.—Students should consult instructor before registering for courses 4, 5, and 6.

SCHOOL OF EDUCATION

7. The Application of Heat to Food Materials.—This course includes (1) a study of the food principles; (2) the methods by which heat is applied to food and the effect of different temperatures on the food principles, cooking apparatus and its construction, household fuels, and their economic value; (3) combinations of foods and the development by experiment of the principles underlying proportions and methods; (4) the interpretation of common processes of food preparation, with some of the simpler principles of chemistry and bacteriology involved; (5) typical manufacturing processes, and some phases of the history and geography of food products; (6) laboratory directions and experiments. Mj. MISS SPRAGUE.

8. The Chemistry of Foods.—A study of (1) the properties and characteristic reactions of proteids, carbohydrates, and fats, with qualitative tests for their identification; (2) separation of the food principles; (3) study of milk, water, and flour, with some of the simpler methods employed in their analysis; (4) experiments in fermentation; (5) food adulterations and household methods for their detection; (6) laboratory work. Prerequisite: one year of chemistry and course 2 or 7, or an equivalent. Mj. MISS SPRAGUE.

9. The Teaching of Home Economics.—A study of the purpose of this work in the schools; its value as training; its relation to the social life of the school and of the home; the correlation with other studies in the curriculum; the relation of the handwork involved, to the science that underlies it and that grows out of it; the selection of subject-matter and the planning of courses, and their adaptation to different conditions; the planning of school laboratories, and the choosing of equipment. Prerequisite: one year of technical training in the subject. Mj. MISS SNOW.

NOTE.—Related courses will be found under Departmental Nos. II, III, VI, XVII, XX, XXII, XXIV, and XXVIII.

VII. COMPARATIVE RELIGION

1. Introduction to the History of Religion.—This course aims to conduct the student into the study of the general principles of religion and the history of the various religions of the world. It is elementary in character and is intended for all who wish to begin the study of this subject. Mj. DR. CONARD.

2. The Religion of Uncivilized Peoples.—This course surveys primitive religious customs and beliefs, noting their survivals in higher religions. The first part of the course consists of a general study of the religion of uncivilized peoples. In the second part a special study is made of the religion of the North American Indians, or of some other uncivilized people, concerning whom material is available to the student. For beginners. Mj. DR. CONARD.

3. Comparative Theology: The Idea of God.—This is a cursory study of the idea of God as seen in primitive myth and cult, and in the religious rites and literature of the chief historic religions. Prerequisite: course 1 or 2 or an equivalent. Mj. DR. CONARD.

VIII. THE SEMITIC LANGUAGES AND LITERATURES

AND

XL. OLD TESTAMENT LITERATURE AND INTERPRETATION

1. Elementary Hebrew.—Includes the mastery of the Hebrew of Genesis, chaps. 1-3; the study of the most important principles of the language in connection

with these chapters; Hebrew grammar, including the strong verb and seven classes of weak verbs; and the acquisition of a vocabulary of four hundred words. Mj. ASSISTANT PROFESSOR J. M. P. SMITH.

2. Intermediate Hebrew.—Includes the critical study of Genesis, chaps. 4-8, with a review of Genesis, chaps. 1-3; the more rapid reading of fourteen chapters in I Samuel, Ruth, and Jonah; the completion of the outlines of Hebrew grammar and an increase of vocabulary to eight hundred words. Mj. ASSISTANT PROFESSOR J. M. P. SMITH.

3. Exodus and Hebrew Grammar.—Includes the critical study and translation of Exodus, chaps. 1-24; a more detailed study of Hebrew grammar; an inductive study of Hebrew syntax; and the memorizing of three hundred additional words and of several familiar psalms in Hebrew. Mj. ASSISTANT PROFESSOR J. M. P. SMITH.

4. Haggai, Zechariah, and Malachi.—A course of twenty recitations, including the critical and exegetical study of these books; the lexicographical study of two hundred important words; the principles of Hebrew prophecy; a study of Hebrew syntax, especially the subjects of the tense and sentence; the Hebrew accentuation; and the memorizing of about eight hundred words. M. ASSISTANT PROFESSOR J. M. P. SMITH.

5. Elementary Arabic.—An inductive study of the elementary principles of Arabic grammar, the Arabic text of Genesis, chaps. 1 and 2, the Story of Bilqis, and the early Suras of the Qurân furnish the basis of the work. Mj. ASSISTANT PROFESSOR J. M. P. SMITH.

6. Elementary Assyrian.—The early recitations are based chiefly on the transliterated text, the others on the cuneiform. The student will learn the most common cuneiform signs, the strong verb and all classes of weak verbs, and the fundamental principles of the language. A knowledge of Hebrew is prerequisite. M. PROFESSOR BERRY.

7. Intermediate Assyrian.—This includes the reading of several hundred lines of historical cuneiform text, with special attention to vocabulary, a further study of Assyrian grammar, including syntax, and the learning of most of the remaining cuneiform signs that are in frequent use. M. PROFESSOR BERRY.

8. Elementary Egyptian.—Study of (1) the speech of Thutmosis I to the priests of Abydos; (2) the romance of Sinuhe (transliterated from the Hieratic) in Erman's *Chrestomathy*. It includes the acquisition of the commonest signs, and the grammatical principles of the language of the classic period. Mj. PROFESSOR BREASTED.

9. Outline of Hebrew History.—A survey study of the history of the Hebrew people as presented in the Old Testament from the period of the Conquest and establishment in Canaan to the Maccabean struggle and the close of Old Testament history. The course will embrace a preliminary sketch of the patriarchal period, with a more detailed study of the Conquest, the period of the Judges, the United and Divided Kingdoms, the Exile, the revival of Judah, and the beginnings of Judaism. The bearings of prophetic activity upon the history and literature will also receive consideration. A knowledge of Hebrew is not required. Mj. ASSISTANT PROFESSOR J. M. P. SMITH.

10. An Introduction to the Old Testament.—This study embraces such points as will familiarize one with the outline features of this portion of the Bible. It will emphasize: (1) The method of preserving ancient records, (2) the method of compiling and editing those documents, (3) the historical background of the Old Testament books, (4) the literary character of each book, (5) its chief doctrinal teachings, (6) its place in the scheme of biblical revelation, and (7) the best literature with which to pursue and solve its problems. The work will be planned on a practical basis, and will aim to give students a reasonably complete idea of the new and real advances that have been made in the last few decades in the understanding of the Old Testament. Mj. PROFESSOR PRICE.

11. Old Testament Prophecy.—The purpose of this course is to aid in securing a better understanding of the rise and development of prophecy in Israel. Some of the more important matters to be considered are: (1) the controlling ideas in the teaching of each of the great prophets; (2) the relation of the prophet and his work to the political and social movements of his day; (3) the attitude of the prophet toward the priest and priestly institution; (4) the place of prophecy in the preparation for the work of Christ. A knowledge of Hebrew is not prerequisite. Mj. ASSISTANT PROFESSOR J. M. P. SMITH.

12. Old Testament Worship.—A study of the element of worship and the institutions and literature connected with worship in the Old Testament. Special consideration will be given to such topics as: (1) the priest; (2) place of worship; (3) sacrifice; (4) feasts; (5) tithes; (6) clean and unclean, etc.; (7) the origin and character of the Sabbath; (8) the date and character of Deuteronomy; (9) the origin of the Levitical legislation; (10) the composition of the Hexateuch. Attention will be given to the characteristic ideas of the priest as distinguished from those of the prophet, and to the growth of priestly influence in Israel's religious life. A knowledge of Hebrew is not prerequisite. Mj. ASSISTANT PROFESSOR J. M. P. SMITH.

13. Isaiah and His Times.—The course will comprise a historical survey of the Isianic Period; an analysis of the material of the book; the occasion and purpose of its prophecies; its doctrinal teachings; and its chronological arrangement. Special attention will be given to the life of the prophet, his rôle in the development of Hebrew prophecy, and the important problems suggested by the book. Opportunity will be afforded for independent and constructive investigation. A knowledge of Hebrew is not required. Mj. DR. MODE.

Members of the Semitic Department will endeavor to arrange informal courses for students who are prepared to do work of an advanced nature, whenever possible.

IX. BIBLICAL AND PATRISTIC GREEK

AND

XLII. NEW TESTAMENT LITERATURE AND INTERPRETATION

1. Elementary New Testament Greek.—A course for beginners, presupposing no knowledge of Greek. It aims to secure, by an inductive study, the absolute mastery of chaps. 1-4 of the Gospel of John, and the essential facts and most elementary principles of the language. Emphasis is placed upon the writing of exercises in Greek. Mj. DR. BAILEY.

2. Intermediate New Testament Greek.—This course is designed for those who have completed course 1, and for those who wish to review their Greek in connection with the New Testament. It comprises the thorough study of the entire Gospel of John, and the reading at sight of the first Epistle of John; also the acquisition of vocabulary and the most general principles of grammar. One who has diligently worked through this course should be able, with the aid of the lexicon, to read with comparative ease the New Testament. Mj. DR. BAILEY.

3. Advanced New Testament Greek.—For those who have a good knowledge of Greek, college graduates, and others who wish to make a special study of New Testament Greek. A thorough study of the syntax of New Testament Greek as regards the verb, and a historical and linguistic study of the entire Book of Acts. This course corresponds to residence course 1 and is required for the D. B. degree. Mj. ASSISTANT PROFESSOR CASE.

4. Introduction to New Testament History.—An account of the rise and fall of the Jewish state from 175 B. C. to 70 A. D., with special attention to the history of the Pharisees and Sadducees, and to the Jewish social and religious life. The aim of the course is to furnish a historical background for the life of Christ. This course corresponds to residence course 2, and is required of candidates for the D. B. degree. Mj. ASSOCIATE PROFESSOR VOTAW.

5. Introduction to the Books of the New Testament.—

A. Life of the Apostle Paul and Introduction to the Pauline Epistles.—The work in this course is done on the basis of a handbook, containing an outline of the life of Paul, topics for special study, with references to literature, and a brief introduction to the epistles. The aim is to prepare the student for the interpretation of the letters of Paul and for an understanding of his personality and theology. Mj.

B. Introduction to the Gospels, Acts, and General Epistles.—Includes the study of the occasion and purpose of each book and its general content and structure. Mj. PROFESSOR BURTON AND DR. BAILEY.

NOTE.—Either 5A or 5B may be substituted for residence course 3, required of all candidates for the D.B. degree. Elective credit will be given for the other major.

6. The Gospel of Luke.—An inductive study leading to a mastery of the plan and development of the gospel and its fundamental teachings. The critical questions that arise and the historical background also receive attention. M. DR. BAILEY.

7. The Gospel of John.—A course developed on an inductive plan especially suited to the peculiar structure of the book. The work of the course includes: a study of the origin and character of the gospel; comparison with the other gospels; the conception of Christ herein portrayed; the discourses of Jesus; and application to present life and character. M. DR. BAILEY.

8. Constructive Studies in the Life of Christ.—The aim of the course is to enable the student to construct his own "Life of Christ" in a true historical perspective. To this end the entire gospel history will be studied in a connected way, especial attention being given to the most important political and social features of New Testament times, and to the interpretation of critical passages. Mj. DR. BAILEY.

9. Research Course in the Life of Christ.—A course designed to follow course 8, or an equivalent study of the "Life of Christ." The purpose is a thorough investigation of fourteen main topics and problems in the gospel history, such as the origin and characteristics of the gospels, the development of the religious and messianic consciousness of Jesus, the plan and the chief events of his public ministry, and the growth and crisis of the opposition to him. Use will be made of the best literature upon the subject. Papers by the student upon the several topics will be discussed by the instructor. M. ASSOCIATE PROFESSOR VOTAW.

10. The Teaching of Jesus.—The four gospels will be investigated as to their origin, characteristics, trustworthiness, and the manner of their use for ascertaining the teaching of Jesus. The chief ideas and characteristics in Jesus' day will be studied as the historical background to his teaching; also the development of Jesus' own religious experience and ideas, and the aim, limits, style, and method of his teaching. Then will follow topically a comprehensive, careful study of the content of Jesus' teaching. Mj. ASSOCIATE PROFESSOR VOTAW.

11. The Ethical Teachings of the New Testament.—The moral ideal of Jesus is to be studied on the basis of the Sermon on the Mount in Matthew, supplemented by material from other portions of the gospels. The specific principles set forth by Jesus, and the application which he made of them to his own life and to the conduct of others, will be interpreted. Similarly, the moral ideal of Paul will be considered, with its principles and applications, and a comparison of Paul's ethics, with the ethics of Jesus, will be made. The teaching of the Epistle of James and other New Testament writings will be examined also. Then the applicability and the adequacy of the ethical teaching of the New Testament to present-day living—individual and social, and the relation of New Testament ethics to modern scientific ethics will be considered. Mj. ASSOCIATE PROFESSOR VOTAW.

12. The Social Teaching of Jesus.—The teaching of Jesus concerning society, the state, the family, wealth, and other social institutions. Mj. PROFESSOR MATHEWS.

13. The Messianic Hope in the New Testament.—Mj. PROFESSOR MATHEWS.

14. Christianity in the Apostolic Age.—While Gilbert's *Christianity in the Apostolic Age* serves as a guide, the emphasis throughout the course is laid upon the independent study of the New Testament and the importance of a thorough acquaintance with it. As far as possible the student will be led to construct his own story of the development of primitive Christianity. The study follows in the main the outline of the Book of Acts, but the Epistles are also used in so far as they reflect conditions of life and thought during the period. The aim of the course will be to give not only a correct understanding of each individual event in itself but also a just conception of this earliest period of the church as a whole. Mj. DR. BAILEY.

15. The Apostolic Fathers.—The course includes a study of (1) the early Christian literature ca. 95-150 A. D.; (2) problems of date, authorship, and purpose; (3) reading of the Greek; and (4) studies in theology and polity. Outlines of the literature will be provided, and reports covering the topics given above will be required. The later development of New Testament ideas and practices, as reflected in this early Christian literature will be especially emphasized. Mj. ASSISTANT PROFESSOR GOODSPEED AND DR. ROBISON.

16. Quotations from the Old Testament in the Gospels.—Involves an interpretation of the Old Testament passages on the basis of the Hebrew, of the New Testament passages in the Greek, and a comparison of the results. M. PROFESSOR BURTON AND DR. BAILEY.

X. SANSKRIT AND INDO-EUROPEAN COMPARATIVE PHILOLOGY

1. Elementary Sanskrit.—The aim of the course is to give the student a thorough grounding in the essentials of Sanskrit grammar, the principles of which are illustrated by constant translation from Sanskrit into English and from English into Sanskrit. It is designed as an introduction to the selections from classical Sanskrit in Lanman's *Reader*, which the student should then be prepared to read rapidly by himself. No attempt is made to teach comparative philology in this course. Mj. DR. CLARK.

2. Elementary Russian.—

A. After a general study of the declensions and conjugations, texts supplied with extensive notes will be taken up and mastered. Mj.

B. Continues the study of texts with review of inflectional forms. The vocabulary will be enlarged by the study of roots and suffixes. Elementary composition. Extensive syntax study. Mj. MR. HARPER.

NOTE.—These courses are eminently practical. Provisional credit is given when A is passed. It will be made permanent when B is passed.

3. Elementary Chinese.—

A. This course gives the student (1) the principal rules for pronouncing Chinese words; (2) a vocabulary of about 250 of the most common words; (3) practice in constructing short sentences in Chinese; (4) progressive exercises involving the elements of the grammar—verbs, nouns, and adjectives; (5) drill in translating short sentences from English into Chinese and *vice versa*. A Chinese elementary reader will be used in the latter part of the course. Mj.

B. Advancing on A, (1) the vocabulary will be extended to include 500 words; (2) the more difficult points of the grammar will be taken up; (3) the development of verbs will receive special consideration; (4) longer exercises in translating Chinese into English and *vice versa* will be required. A more advanced Chinese reader will be used. Mj. YINCHANG TSEUSHAN WANG.

4. Elementary Japanese.—

A. After a general survey of the history and characteristics of the language, a study of the essentials of grammar will be taken up in connection with the vocabulary of daily intercourse. From the outset drill will be given in the writing of Japanese

characters. Exercises in translating simple Japanese into English and English into Japanese will be required. Mj.

B. The more difficult points of grammar will be studied, selections from the elementary reader compiled by the Japanese Department of Education will be read, and simple compositions in Japanese will be required. Mj. MR. TSUNEKAWA.

The instructors will suggest reading for further work in Sanskrit or comparative Philology.

XI. THE GREEK LANGUAGE AND LITERATURE

ACADEMY

1. **Elementary Greek.**—In two majors is offered the equivalent of the first year of high-school work in Greek. The writing of Greek is required from the beginning.

A. White's *First Greek Book*, Lessons 1-60. These lessons include the commonest noun and adjective declensions, the Omega system of conjugation, some fundamentals of syntax, connected reading lessons epitomizing the story of the *Anabasis*, and a vocabulary of 600 common Greek words. Mj.

B. (1) White's *First Greek Book*, Lessons 61-80. These lessons include the Mi system of conjugation, reading lessons continuing the *Anabasis* story, and an additional vocabulary of 250 words. (2) the *Anabasis* of Xenophon, Book i, chaps. 1-3. These lessons call for constant review of the material studied in the *First Greek Book*. Mj. ASSISTANT PROFESSOR BRONSON.

2. **Xenophon: *Anabasis*.**—

A. From Book i, chap. 4, through Book ii, chap. 4, about fifty pages. Exercises in writing Greek based upon the text. Mj.

B. From Book ii, chap. 5, through Book iv, about ninety pages. Greek composition, including a topical treatment of syntax. Collateral readings in Gulick's *Life of the Ancient Greeks*, Grote's *History of Greece*, etc. Occasional tests in translation at sight. Mj. ASSISTANT PROFESSOR BRONSON.

3. **Homer: *Iliad*.**—

A. Books i-iii.—An introduction to the study of Homer with particular attention to prosody and peculiarities of epic dialect and syntax. Mj.

B. Books iv-vi.—In this course the literary features of Homeric study are emphasized. Mj. MR. JOHNSTON.

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4. **Plato: *Apology* and *Crito*.**—In connection with these writings Xenophon's *Memorabilia* will be read to furnish a basis for the study of the life and philosophy of Socrates as interpreted by Plato and Xenophon. Brief outline of Plato's life and works. Prose composition based on text accompanied by discussion of syntax and idioms of Plato. Mj. PROFESSOR MISENER.

5. **Homer: *Odyssey*,** Books v-xiii.—This course aims chiefly at enabling the student to translate Homer fluently and with appreciation. It also includes a review of Epic dialect and syntax, and a study of Homeric life and antiquities. Mj. PROFESSOR MISENER.

6. **Herodotus: *Historiae*,** Books vi-vii.—In this course particular attention is paid to the language and style of the author, as well as to the historical importance of the events narrated. The reading covers the Second Persian Expedition against Greece, ending at Marathon, and the Invasion of Xerxes as far as the Battle of Thermopylae. Mj. MRS. BEESON.

7. **Advanced Prose Composition.**—The course offers to teachers and others an opportunity to perfect themselves in Greek syntax, sentence structure, and the use of particles. The exercises are graded from simple narrative passages in the style of Xenophon to more difficult selections in the style of Plato and Demosthenes. Mj. ASSISTANT PROFESSOR BONNER.

8. Demosthenes: *Philippics* and *Lysias*.—An introduction to the study of the Attic orators. Mj. MRS. BEESON.

9. Demosthenes: *De Corona*.—A study, chiefly literary, of this masterpiece of Attic oratory. Mj. MRS. BEESON.

10. Introduction to the Greek Drama.—Sophocles' *Antigone* and Aristophanes' *Clouds* are read. Attention is given to the various problems connected with these plays, to the character delineation, and the method of presentation. Collateral reading is assigned on the history of Greek drama and theater. Mj. PROFESSOR MISENER.

11. History of Greek Literature.—The course is designed for two classes of students, those who have not studied Greek but desire an intimate knowledge of Greek literature, and those students of Greek who wish a general survey of Greek literature and an opportunity to study the Greek masterpieces more fully from the purely literary point of view. The course includes: (1) a systematic survey of the history of Greek literature down to the Alexandrian period, treating (a) of the origin and development of the various branches of literature, (b) the more important Greek authors, (c) Greek institutions, art, and religion in so far as a knowledge of these is necessary for the understanding of Greek literature; (2) analytical and comparative study of the masterpieces of Greek literature in selected translations. Mj. PROFESSOR MISENER.

Members of the Greek department will endeavor to arrange informal courses for students who are prepared to do work of an advanced nature whenever practicable. Professor Shorey will occasionally guide by correspondence the work of advanced students who propose to attend the University.

XII. THE LATIN LANGUAGE AND LITERATURE

ACADEMY

1. Elementary Latin.—In two majors is offered the equivalent of the first year of high-school work in Latin. Starting with the rudiments, the aim is to acquaint the student with all the regular forms and common constructions found in Caesar's *De Bello Gallico*, and to give him a large vocabulary.

A. Includes all the declensions of nouns and adjectives, all the conjugations of regular verbs, and the simplest rules of syntax. Mj.

B. Provides (1) a review of verb forms, the conjugation of the irregular verbs, and the more difficult constructions in syntax, and (2) the study of Caesar: *De Bello Gallico*, Book I, chap. 1-30, covering the Helvetian War. Mj. MISS PELLETT.

2. Caesar: *De Bello Gallico*.—

A. *Book ii*.—This course is intended for students who have completed course 1, but who have had no other practice in translation. Special attention is given to a review of forms and syntax. Exercises in prose composition based upon the text form a part of each lesson. Mj.

B. *Books iii-iv*.—Continues the above. The more difficult Caesarian constructions are carefully studied, and further practice is given in prose composition. Mj.

C. *Book i*.—The latter part of Book i, the war with Ariovistus, is read. While forms, syntax, and prose composition continue to be studied, indirect discourse receives special attention. Students are required to change all the passages in indirect discourse to the direct discourse. M. MISS PELLETT.

3. Viri Romae.—A series of twenty lessons based upon the interesting stories of early Rome; open to those who have completed course 1 or its equivalent, and who desire to increase their vocabulary and acquire facility in reading Latin. M. MISS PELLETT.

4. Nepos.—Like course 3 in aim and prerequisites. M. MISS PELLETT.

5. Cicero: *Orationes*.—

A. *In Catilinam, i-iv*.—This course includes translation, a review of forms and of more difficult constructions, exercises in Latin composition based upon the portion of text assigned in each lesson, and the history of the period. Mj.

B. *Pro Lege Manilia* and *Pro Archia*.—Continues A and includes a careful study of the literary style of Cicero, of all historical references, and exercises in prose composition, based upon the portion of text assigned in each lesson. Especial attention is given to translating into good English. Mj. MISS PELLETT.

6. Vergil: *Aeneid*.

A. *Books i-ii*.—The work includes a study of prosody, word-derivation, constructions peculiar to the poets, and the more common rhetorical figures. Mj.

B. *Books iii-vi*.—Continues A and lays emphasis upon elegance of translation, the mythology, and the literary style of Vergil. Mj. MISS PELLETT.

7. Selections from Roman Writers.—This course will be of advantage to those who wish to become acquainted with the style of different Roman writers. Mj. MISS PELLETT.

8. Prose Composition Based on Caesar.—This course affords (1) practice in writing Latin in connected passages based on Caesar's *De Bello Gallico*, (2) a thorough review of grammatical forms and constructions found in the *De Bello Gallico*; (3) a careful study of synonyms. As the course is informal, special attention can be given to any subject in which the student is deficient. M. MISS PELLETT.

9. Prose Composition Based on Cicero.—Like course 8, using the orations as a basis. M. MISS PELLETT.

NOTE.—The courses 1-9 are intended for three classes of students: (1) those who are preparing to enter college; (2) those who wish to study Latin for their own benefit; (3) teachers of Latin who from the topics and questions in each lesson can receive suggestions for their own work, e.g., the points to be emphasized at different stages in Caesar, Cicero, and Vergil.

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10. Cicero: *De Senectute*.—The entire essay is read with studies in syntax and exercises in prose composition based upon the text of each lesson. M. MISS PELLETT.

11. Terence: *Phormio*.—This play, as a specimen of the highest development of Roman comedy, is carefully studied with regard to morals, composition, presentation, etc. Attention is also given to vocabulary, metrical treatment, and ante-classical forms and constructions. M. MRS. BEESON.

12. Livy.—The twenty-first book and a large part of the twenty-second, describing Hannibal's expedition against Rome up to Cannae, are read, with accompanying studies in literary style and syntax and exercises in prose composition, based in each case upon the portion of text assigned in each lesson. Mj. MRS. BEESON.

13. Horace: *Odes*, Books i-iii.—This course includes: commentary upon the details of each ode, syntactical, historical, illustrative, etc.; translation, analysis of thought, and general interpretation; and a study of the metrical form. A list of general topics, material for the study of which is to be found in the odes, is presented at the outset, and the student is expected to select one of these for his especial study. Mj. PROFESSOR MILLER.

14. The Latin Subjunctive.—The course presents a systematic treatment of the subjunctive, according to the latest scientific theories. The development of the various uses is discussed, and all the forms found in preparatory Caesar or Cicero are classified. The student may choose to classify the forms either in Caesar or in Cicero, or in such a combination of the two as shall be equivalent in amount to either. The course is intended primarily for teachers. Mj. MISS PELLETT.

15. Advanced Prose Composition.—The course offers to teachers and others an opportunity to perfect themselves in Latin syntax, and sentence and paragraph structure. The exercises are graded from simple passages in the style of Caesar to more difficult extracts in the style of Cicero. Mj. ASSISTANT PROFESSOR BONNER.

16. Plautus.—

A. *Captivi*.—This course will deal especially with the linguistic side of Plautus. The vocabulary and scansion will be studied and ante-classical forms and constructions noted. Good idiomatic translation will be required. M.

B. *Trinummus*.—Here the literary side will be emphasized. The course will deal especially with Plautus' style, plot, and delineation of character. As in the first minor, much attention will be paid to translation. M. MRS. BEESON.

17. Tacitus: *Agricola* and *Germania*.—In the reading of these works both their historical importance and their literary merits are brought out. The course is an introduction to the language and style of Tacitus. Mj. ASSISTANT PROFESSOR BEESON.

18. Cicero: *Epistulae*.—A study of the character and career of Cicero from the evidence afforded by the material contained in one hundred selected letters and from supplementary historical and biographical sources. The course also deals with the peculiarities of epistolary Latin and with the general subject of letter-writing in ancient Rome. Mj. MRS. BEESON.

19. Ovid.—Selections from the *Epistulae*, *Amores*, *Fasti*, *Metamorphoses*, and *Tristia*. The object of the course is to make a general study of the life and works of Ovid and of his place in Roman literature. (Informal.) Mj. PROFESSOR MILLER.

20. Seneca: *The Tragedies*.—The tragedies of Seneca will be studied for their style, as characteristic of the period, and their content; they will be compared with the corresponding Greek dramas, and their influence upon English drama will be touched upon. Three plays will be read from the Latin text, and the remainder from an English translation. (Informal.) Mj. PROFESSOR MILLER.

21. Horace: *Satires and Epistles*.—Selected satires and epistles are carefully read and analyzed, with particular regard to argument, character portrayal, style, and their place in literature. (Informal.) Mj. PROFESSOR MILLER.

22. Horace and Persius: *Satires*.—A brief review of the predecessors of Horace in the field of satire, a reading of selected satires of Horace and Persius, with a study of the characteristic features of each. (Informal.) Mj. PROFESSOR MILLER.

23. *Topical Studies in the Works of Vergil*.—This course presupposes a considerable familiarity with Vergil on the part of the student. It is not a reading course, but the *Eclogues*, *Georgics*, and particularly the *Aeneid* will be the field of investigation under various topics relating to different objects of study in the works of this author. A list of topics will be presented to the student, of which the following are typical: "Vergil's Verse and Its Metrical Peculiarities;" "Poetic Constructions in Vergil;" "Vergil as a Poet of Nature;" "The Aeneid as a National Epic;" "Vergil's Use of Metaphor and Simile." The student will be expected to select a certain number of these topics and, with them in mind, to go through the works of Vergil under direction of the instructor, collect all material bearing upon them, and present his results in finished form. The instructor will at all times furnish such aid as may be necessary and will criticize the results. (Informal.) Mj. PROFESSOR MILLER.

24. *Roman Conception of the Immortality of the Soul*.—This course is the study of a topic, and is based for material upon a variety of authors: Cicero's *Tusculan Disputations*, i, *De Senectute*, *De Amicitia*, *Epistulae*; Vergil's *Aeneid*, Book vi; Horace's selected odes; Ovid, Seneca, Persius, etc. (Informal.) Mj. PROFESSOR MILLER.

25. *Training Course for Teachers*.—The object of the course is to give the teacher working alone and often at a distance from authorities, an opportunity to appeal for assistance and advice along any lines connected with his teaching of Latin. Naturally there are some subjects which nearly all teachers find it profitable to take up in a somewhat formal way, e. g., pronunciation, translation, metrical reading, composition, etc. In addition to these, each teacher will have his own problems to discuss. The course is designed to meet these general and individual needs. (Informal.) Mj. PROFESSOR MILLER.

Members of the Latin Department will endeavor to arrange informal courses for students who are able to do work of an advanced nature, whenever practicable.

XIII. ROMANCE LANGUAGES AND LITERATURES

1. Elementary French.—In two majors is offered the equivalent of the first year of high-school work in French. The writing of French is required from the beginning.

A. This course is designed to acquaint the student with the essentials of French grammar, to enable him to turn short English sentences into idiomatic French, and to translate easy French at sight. It will consist of progressive exercises on the elements of grammar, drill on verbs, the writing of French sentences, translation of easy French into English and the free reproduction of the French stories read. Mj.

B. Reviews, and extends the work on French verbs, studies the complete French grammar, and affords practice in French composition. Several short stories, a modern novel, and a text of modern history will be read in A and B together. Mj. ASSISTANT PROFESSOR NEFF.

2. Intermediate French.—This is largely a language and drill course, and is intended to review inductively the grammar work of the preceding course. It includes the reading of modern short stories and comedies, practice in composition, and especially work in French synonyms designed to increase the vocabulary. The work is largely conducted in French. Mj. ASSISTANT PROFESSOR NEFF.

3. Advanced French.—Idioms, synonyms, diction; (a) systematic review of elementary French grammar; (b) syntax; (c) reading: Mérimée, *La chronique de Charles IX*; (d) composition based on the reading. Prerequisite: course 2. Mj. MR. DAVID.

4. French Reading.—(A. *Modern Novels*, or B. *Modern Dramas*.)

A. *Modern Novels*.—Anatole France, *Le crime de Sylvestre Bonnard*; Honoré de Balzac, *Eugénie Grandet*; George Sand, *La mare au diable*. Criticism of the novel. Prerequisite: course 3. Mj.

B. *Modern Dramas*.—V. Hugo, *Hernani*; E. Augier, *Le gendre de M. Poirier*; A. Dumas fils, *La question d'argent*; E. Rostand, *Cyrano de Bergerac*. Criticism of the drama. Prerequisite: course 3. Mj. MR. DAVID.

5. Advanced French Reading.—(A. *Modern Dramas and Lyrics*, or B. *Modern Novels and Lyrics*.)

A. *Modern Dramas and Lyrics*.—The work will be based on the dramas of 4 B and selections from the lyric poets, especially Chénier, Lamartine, Musset, Victor Hugo; versification; criticism of lyric poetry. Prerequisite: course 4 A. Mj.

B. *Modern Novels and Lyrics*.—The work will be based on the novels of 4 A and selections from the lyric poets, especially Chénier, Lamartine, Musset, Victor Hugo; versification; criticism of lyric poetry. Prerequisite: course 4 B. Mj. MR. DAVID.

NOTE.—If A has been chosen in course 4, A of course 5 must be chosen; if B of course 4, B of course 5 must be chosen.

6. Molière and the French Comedy in the Seventeenth and Eighteenth Centuries.—

A. *Molière and His Contemporaries*. (17th c.) Mj.

B. *Molière's Successors*. (18th c.) Mj.

These two courses will include a study of the lives of the principal authors, their influence on the theater, with intensive study of the following plays: (a) Corneille, *Le menteur*; Molière, *Les précieuses ridicules*, *Tartuffe*, *Le misanthrope*, *L'avare*, *La critique de l'école des femmes*, *Le bourgeois gentilhomme*, *Les fourberies de Scapin*, *Don Juan*, *Les femmes savantes*, *Le malade imaginaire*. (b) Regnard, *Le légataire universel*, *Le joueur*, *Les folies amoureuses*; Lesage, *Turcaret*; Marivaux, *Le jeu de l'amour et du hasard*, *Le legs*, *L'épreuve*, *Les fausses confidences*; Destouches, *Le philosophe marié*; Gresset, *Le méchant*; Beaumarchais, *Le barbier de Séville*, *Le mariage de Figaro*. This is intended to familiarize the student with the masterpieces of classical comedy. Constant comparison will be made between the language of these writers and that of today, and the most unusual constructions will receive consideration. The work is conducted wholly in French. Prerequisite: the preceding 6 majors of the Junior College or their equivalent. MR. DAVID.

7. Molière.—A critical study of all the plays of the great writer. All the reports must be written in French. This secures to the student a thorough course

in advanced French composition as well as a comprehensive knowledge of Molière's work. Prerequisite: 9 majors of French. Mj. MR. DAVID.

8. Introduction to Old French.—Recognizing the importance of some historical knowledge of French as a part of the teacher's equipment, and of Old French as an indispensable language in research work in modern literatures, this course provides a reading knowledge of Old French. It may be taken to advantage by students looking forward to residence. A fair knowledge of modern French is presupposed, and some knowledge of Latin and German. Texts: *La chanson de Roland*; *Aucassin et Nicolette*; *Erec et Enide*; *La représentation d'Adam*. For reference: Nyrop, *Grammaire historique de la langue française*, Vols. I and II. Mj. ASSOCIATE PROFESSOR JENKINS.

9. Elementary Spanish.—The object of this course is to give the student a mastery of the essential principles of Spanish grammar. A textbook containing numerous practical exercises is used, and about a hundred pages of easy prose is carefully studied, with constant references to the grammar, and exercises in composition based upon the reading. Mj. MISS ENKE.

10. Modern Spanish Novels and Dramas.—This is a course in the careful reading of several modern works, including *La familia de Alameda* by Fernán Caballero, *José* by Palacio Valdés, and *Guzmán el Bueno* by Gil y Zárate. The course is intended to fit students for the appreciative reading of the best modern Spanish literature. Attention is constantly directed to points of syntax, idiomatic constructions, and synonyms, and each lesson contains a paragraph in English, based upon the reading, for translation into Spanish. Prerequisite: course 9 or its equivalent. Mj. MISS ENKE.

11. Spanish Prose Composition.—This course is designed to give the student a practical command of Spanish as a medium of expression. It may be varied to adapt it to the needs of the student, now tending more to commercial forms of composition, now to those forms used in literature or by the traveler. Prerequisite: course 9 or its equivalent. Mj. MISS ENKE.

12. Don Quixote.—This is mainly an interpretative and critical reading course, embracing the first fourteen chapters of the first part and the first ten chapters of the second part of "Don Quixote." The life of Cervantes and the literary movement of his time will be noticed. In the reading, the peculiarities of syntax, style, and diction, as compared with later Spanish, will be studied. A bibliography of the more important works will be given, enabling the student who may wish to make a more extensive study of the author to do so. Prerequisite: course 10 or its equivalent. Mj. MISS ENKE.

13. Elementary Italian.—The aim of this course is to ground the student in the essential grammar of the language, and to equip him with a vocabulary which will enable him to read simple Italian prose. Mj. DR. CIPRIANI.

14. Advanced Italian.—Advanced courses in Italian will be arranged suited to the student's purposes and proficiency. The student must satisfy the instructor of his ability to enter upon the course proposed. (Informal.) Mj. DR. CIPRIANI.

Members of the Romance Department will endeavor to arrange informal courses for students who are able to do work of an advanced nature, whenever practicable.

XIV. GERMANIC LANGUAGES AND LITERATURES

1. Elementary German.—In two majors is offered the equivalent of the first year of high-school work in German. The writing of German is required from the beginning.

A. This course aims to ground the student in the essentials of German grammar through the reading of easy idiomatic German and exercises in which special attention is given to the construction of the verb, noun, and adjective. Mj.

B. Continues and extends A to include the passive voice and the subjunctive, and calls for extensive reading of easy prose. Mj. DR. VON NOÉ.

2. Intermediate German.—Devoted primarily to the reading of easy modern prose, and incidentally to a rapid review of elementary German grammar.

The text read will always serve as the drill-ground for grammar work. Attention will be directed constantly to German idiom, and from time to time the student will be required to reproduce in German what he has read. In the composition work emphasis will be laid upon word order and sentence structure, the knowledge of which is essential to the proper appreciation of the language. Mj. DR. GRONOW.

3. Review of Elementary German Grammar and Syntax.—This course presupposes a previous knowledge of German equivalent to that afforded by courses 1 and 2. It is intended for those who for any reason wish to make a brief systematic review of grammar and syntax, and consists of translation and other exercises based on short German stories, and of a limited number of original compositions embodying the principles reviewed. It will appeal especially (1) to students who desire to renew their acquaintance with the fundamentals preparatory to further study in the language; (2) to many German-Americans, and to those who have acquired their knowledge of the tongue by some natural method; (3) to candidates for the Ph.D. degree who are required to pass a preliminary examination in German. Mj. DR. KUEFFNER.

4. Intermediate Prose Composition.—Translation of easy idiomatic English prose into German, intended to lead the student to appreciate the equivalence of English and German idiom; letter writing; *freie reproduction*. Mj. DR. GRONOW AND MR. HEINZELMANN.

5. German Idioms and Synonyms.—The course comprises the study of (1) the method of word formation; (2) grammatical idioms; (3) synonyms, together with a thorough review of syntax. Attention is given to German-English cognates. Composition based upon selected modern German prose affords the basis of instruction. The course will be helpful to those who teach the language in secondary schools. Mj. DR. GRONOW AND MR. HEINZELMANN.

6. Modern German Dramas.—This is primarily a reading course corresponding to course 6 in residence. It aims at the acquisition of the foundations of idiomatic German on the basis of the language of the dramas read. A short theme in German on the subject chosen from the reading is required with each lesson. Mj. DR. VON NOÉ.

7. Scientific German.—The aim of the course is to enable the student to read German scientific prose. It has the same prerequisites as the preceding course. Short exercises in German composition connected with the text are required. Mj. DR. VON NOÉ.

8. The German Short Story.—The development of the short story (*Novelle*) into an art-form is one of the most interesting phenomena of nineteenth-century literature. The study of this evolution in Germany, together with the various forms of the short story extant—the dramatic, the lyric, the historical, the social, etc.—is the object of this course. The student will read, under guidance, selected stories of Tieck, Hoffmann, Riehl, Auerbach, Rosegger, Meyer, Keller, Fontane, Liliencron, and others. Reports and essays (in German) will be required. This course may be taken by anyone who has a fair reading and writing knowledge of German. Mj. DR. VON KLENZE.

9. Deutsche Aufsätze und Stilübungen.—An advanced course in composition corresponding to course 11 in residence. It includes a study of masterpieces of the best German stylists and the criticism and development of graded themes. The theme-subjects deal with German life, history, and literature. The aim of the course is to develop the student's ability in essay writing. Of special value to teachers. Mj. DR. VON NOÉ.

10. Deutscher Satzbau und Stil.—A sequent to "Deutsche Aufsätze und Stilübungen." The aim of the work is to develop an instinct for idiom and an active sense of the niceties of style by discussing passages from great stylists of the nineteenth century and by German essay writing. It corresponds to course 101 in residence. Mj. DR. VON NOÉ.

11. Outline History of German Literature.—

A. Includes a survey of the development of German literature from the scanty remnants of the earliest period of tribal migrations, heroic romances, and early ballads, through the first period of efflorescence—the twelfth and thirteenth centuries with their

troubadours and national epics; the period of humanism and the reformation, up to the second period of efflorescence—the eighteenth century. Mj.

B. Aims at a more detailed study of prominent writers of the eighteenth century; the Romantic Movement with its best representatives, and the most characteristic novelists, dramatists, and lyricists of the nineteenth century. A is not prerequisite to B. Mj. DR. VON KLENZE.

NOTE.—Prerequisites for both A and B. Students taking either one of these courses must have a good reading knowledge of German as well as the ability to write with some ease. It is advisable that at least one of the courses in some special field of German literature as "The Short Story," or "Goethe's Lyrics," or their equivalents, should precede this course.

12. **Goethe's Lyric Poetry as an Exponent of His Life.**—No writer so minutely reflects his moral and intellectual growth in his lyric poetry as does Goethe. A chronological study of his lyrics affords, therefore, a subtle appreciation of his whole individuality. The student will pursue a study of the standard biographies of Goethe, together with his letters and autobiographical writings, while at the same time reading carefully the lyrics written during each period of his life. Essays are required throughout the course. Mj. DR. VON KLENZE.

13. **Friedrich Hebbel: A Study of Modern German Drama.**—Hebbel was one of the most powerful individualities of the nineteenth century and one of the most significant figures of German literature. His drama is the expression of new principles in dramatic literature, which many years later appeared in modified form in the social dramas of Ibsen. Mj. DR. VON KLENZE.

14. **Gothic.**—A consideration of Gothic phonology, morphology, and syntax in connection with the reading of selections from the Bible translation of Wulfila. Mj. ASSOCIATE PROFESSOR WOOD.

15. **Old High German.**—The reading of selections from Braune's *Althochdeutsches Lesebuch*, with reference to the same author's *Althochdeutsche Grammatik*. This course is a natural sequent of course 14. Prerequisite: course 14 or its equivalent. Mj. ASSOCIATE PROFESSOR WOOD.

Members of the Germanic Department will endeavor to arrange informal courses for students who are able to do work of an advanced nature, whenever practicable.

16. **The Teaching of German in Secondary Schools.**—The method of teaching German in high schools and academies has undergone radical changes within the last few years. The object of this course is (1) to make the teacher acquainted with the new methods and their application to the teaching of pronunciation, grammar, composition, reading, and translation; (2) to furnish him an opportunity to discuss his particular problems. Mj. DR. GRONOW.

XV. THE ENGLISH LANGUAGE AND LITERATURE, AND RHETORIC

ELEMENTARY

1. **English Grammar.**—An elementary course in practical English grammar, assuming no technical knowledge of the subject, and intended for students who need instruction or review in such fundamentals as the parts of speech, their correct use in the sentence, punctuation, capitalization, etc. Foreigners imperfectly acquainted with English idiom will find this course of value, and in many cases it will be needed as preparation for the following composition courses. The exercises of the course consist mainly in the correction of faulty sentences, parsing and analysis, and the writing of sentences to illustrate the principles discussed. Mj. ASSISTANT PROFESSOR MARSH.

ACADEMY

2. **Preparatory English Composition.**—This course is designed for those who wish practice, under criticism, in the simpler forms of English composition, and elementary instruction in rhetorical principles. It consists of exercises based upon the study of a prescribed textbook, and themes on subjects of many kinds, usually chosen by the student within certain limitations. Those who successfully complete the course should have no difficulty in passing the ordinary college-entrance examination in English composition. Teachers in secondary schools should find the course helpful in their

work. Business and professional men whose training has been deficient can gain valuable experience in practical composition. Mj. ASSISTANT PROFESSOR MARSH.

3. Preparatory English Literature.—The instruction in this course will be based from year to year upon the standard requirements in English literature for admission to college and students who successfully complete the course should have no difficulty in passing the entrance examination. The aim, however, is to make the course valuable not only to such students, but also (1) to teachers of English in preparatory schools, and (2) to all persons who wish to take up, either for the first time or by way of review, the more simple and concrete phases of the study of literature. Students who have once registered for this course may secure instruction on the new books added in any subsequent year upon payment of \$5 for that year providing the "lesson" value of the books does not exceed 12. Additional lessons will cost 50 cents each. Mj. MRS. MOORE.

COLLEGE

4. English I.—This course is designed to be a full equivalent of English 1 (the first course in English rhetoric and composition required of all students in residence) and commands corresponding credit. The aim of the course is to give the student a practical knowledge of the principles of rhetoric, and of their application to English writing. To this end he will write twenty short themes on a wide range of subjects and prepare twenty exercises illustrating the use of words, the structure of sentences, paragraphs, and whole compositions, and other rhetorical subjects. Exercises and themes will be criticized in detail and returned to the writer for correction. Mj. ASSISTANT PROFESSOR MARSH.

5. English III.—This course is designed to be a full equivalent of English 3 (the second course in English rhetoric and composition required of all students in residence) and commands corresponding credit. The course aims (1) to give training in structure, and (2) to give instruction and practice in the four forms of composition—exposition, argumentation, description, and narration. To these ends the emphasis is laid on exposition and argumentation, textbooks are required, lesson papers must be submitted, and a final examination taken. The written work, aside from the foregoing, will consist of six long themes each from 1,000 to 1,500 words in length, and ten short themes of from 100 to 200 words each. Admission to the course may be obtained by passing creditably "English I," or by submitting to the instructor an original exposition or argument showing ability. Mj. ASSISTANT PROFESSOR FLINT AND MR. HULBERT.

6. English IV.—

A. Expository—Argumentative.—This course gives a more detailed study of exposition and argument than is afforded by "English III." The work consists of (1) the writing of papers on the theory of these forms of composition as set forth in texts used, and (2) the writing of two expositions, two briefs, and two arguments. Mj.

B. Descriptive—Narrative.—In this course the descriptive study is incidental to the narrative. The work is based on the reading of six novels and a number of short stories. It consists (1) in the writing of papers on the theory of narrative writing as discussed in a text and illustrated in the novels and stories read, and (2) in the writing of sixteen short themes and four long ones—three of these, short stories. Mj. ASSISTANT PROFESSOR FLINT AND MR. GRABO.

NOTE.—Admission may be obtained in one of two ways: (1) by passing creditably "English III;" (2) by submitting to the instructor a manuscript showing ability. University credit will be given on the passing of an examination.

7. English V.—This course is intended for persons who have already mastered the technical difficulties of ordinary writing, and who are interested in some special form of literary production—e. g., the editorial, the short story, the book review, etc.—in which they desire instruction through criticism of the manuscripts submitted. The applicant for admission to this course should submit a statement of the work which he wishes to do, accompanied by an example of his writing, which may serve as the opening theme of the course. The themes may form a connected whole, as chapters of a story or essay, or they may be unconnected in material, but similar in form. No formal instruction is given in the elements of style or structure, but the general plan and the successive themes will be criticized with a view to helping the student to master

the special problems involved in the form of writing which he has chosen. The course demands approximately 30,000 words. Mj. ASSISTANT PROFESSOR FLINT AND MR. GRABO.

8. The Development of English Literature.—This course is designed to be the full equivalent of course 40 in residence, the first required course in English literature. It introduces the student to the whole range of English literature in a series of connected masterpieces from Beowulf to Tennyson. The aim is not only to give some knowledge of the masterpieces in themselves, but to study their connection in the development of English literature; to observe the way in which the literature of each period has changed and developed into that of the succeeding period; to note what it has taken from the literature which preceded it, and what it has bequeathed to that which followed it. Some attention is given also to tracing a connection between the principal historic events and conditions of each period, and the literature of its own and succeeding periods. The course, as a whole, affords a broad foundation for more detailed and critical study. Mj. MRS. MOORE.

9. An Introduction to American Literature.—A series of studies of American life in American literature. The first few lessons are given over to pre-Revolutionary literature for the purpose of observing the earliest departures from English models and traditions. Chief emphasis is, however, thrown on the poets, essayists, and novelists of the nineteenth century. While the aim of the course is to put the student in the way of obtaining a preliminary acquaintance with the subject as a whole, assigned readings are restricted to selected works of twelve or fifteen representative men of letters, from Irving and Cooper to Lanier and Whitman. Mj. MISS CRANDALL AND MISS BROWN.

NOTE.—For admission to any one of the following courses, course 8 or its equivalent is prerequisite.

10. An Introduction to the Study of Shakspeare.—This course is intended (1) to give a general idea of Shakspeare's part in the great movement of dramatic literature which marks the Elizabethan Age; and (2) to trace the development of his mind and art through a study of typical plays in chronological order. The origin and growth of the drama is briefly outlined, and Shakspeare's relations to his predecessors and contemporaries incidentally indicated. In the study of the dramatist the plays are regarded as an organic whole, forming the stages in a continuous mental growth—a progressive revelation of their author's genius and the variety of his powers. To this end the following plays, typical of the different periods in Shakspeare's life, are critically read, and in the order of their production: *Henry the Fourth*, *As You Like It*, *Othello*, *King Lear*, *Antony and Cleopatra*, and *The Tempest*. For purposes of comparison the student is also required to read *The Two Gentlemen of Verona*, *Richard the Second*, and *Romeo and Juliet*. The course is designed for those in quest of general culture who may not have the opportunity or the time to undertake the more intensive study required in "The Elizabethan Drama." Mj. ASSOCIATE PROFESSOR TROOP.

NOTE.—The following numbers, 11-15, comprise a series of reading courses, corresponding to courses 42-48, in residence, which cover with some minuteness the history of English literature from the beginning of the modern period down to 1892. In each major the work consists mainly in the reading of a large number of representative masterpieces of the period, and the preparation of answers to questions based upon this reading. Textbook work in a literary history of each period is assigned; and the lesson sheets furnish much supplementary material, such as bibliographies of the required authors, suggestions for study of their principal works, etc. These courses (or their equivalents) are required of all candidates for the Doctor's degree in English, and at least four of them (or equivalents) for the Master's degree. Hence, though a year of resident study is required for the Master's degree, students may take these required courses by correspondence and later do more highly specialized work in residence. Graduate credit will be given to properly prepared students, who do creditable work in their recitation papers and pass the final examination given on each course. Students not entitled to graduate credit, moreover, may register for any of the courses, the only prerequisite being course 8 or its equivalent. It is not necessary that the series be taken in chronological order, as each course is complete in itself; but those intending or desiring to take the whole series are advised to follow the chronological order. The series as a whole is designed to give first-hand knowledge of the chief masterpieces of modern English literature, excepting only Shakspeare's works which are treated in special courses.

11. English Literature from 1557 to 1642.—Reading of Spenser (at least one book of *The Faerie Queene* and various shorter poems), Wyatt, Surrey, Sackville, Sidney, Herrick, Milton (minor poems), and other poets; plays by Marlowe, Jonson, Beaumont and Fletcher, and lesser dramatists both before and after Shakspeare; Ascham's *Schoolmaster*, portions of Lyly's *Euphues* and other works of fiction, Sidney's

Defence of Poesie, Bacon, Raleigh, and Sir Thomas Browne. Mj. ASSISTANT PROFESSOR MARSH.

12. **English Literature from 1642 to 1744.**—Reading of representative prose works of Milton, Jeremy Taylor, Isaak Walton, Pepys, Clarendon, Bunyan, Dryden, Addison, Steele, Defoe, and Swift; poems of Milton (four books of *Paradise Lost*, *Samson Agonistes*, etc.) Dryden, Pope, Thomson, and numerous minor poets; plays by Dryden, Otway, Congreve, Wycherley, and other Restoration dramatists. Mj. ASSISTANT PROFESSOR MARSH.

13. **English Literature from 1744 to 1798.**—Reading of novels by Richardson, Fielding, Smollett, Sterne, Johnson, Goldsmith, the so-called "Gothic" romancers, and Fanny Burney; miscellaneous prose by Johnson, Goldsmith, Boswell, Gibbon, and Burke; poems by Gray, Collins, Goldsmith, Chatterton, Blake, Cowper, Crabbe, Burns, and others; plays by Goldsmith and Sheridan. Mj. ASSISTANT PROFESSOR MARSH.

14. **English Literature from 1798 to 1832.**—Poems by Wordsworth, Coleridge, Southey, Scott, Campbell, Moore, Byron, Shelley, Keats, Hunt, Hood, Landor; novels by Scott and Jane Austen; miscellaneous prose by Coleridge, Lamb, Hazlitt, DeQuincey, the reviewers, etc. Mj. ASSISTANT PROFESSOR MARSH.

15. **English Literature from 1832 to 1892.**—Reading of numerous poems by Tennyson, the Brownings, Matthew Arnold, Clough, the Rossettis, Swinburne, Morris, and others; novels by Dickens, Thackeray, Charlotte Brontë, George Eliot, Meredith, Hardy, and Stevenson; miscellaneous prose by Carlyle, Macaulay, Newman, Arnold, Pater, Ruskin, and Stevenson. Mj. ASSISTANT PROFESSOR MARSH.

16. **The Elizabethan Drama.**—In a series of advanced courses opportunity is given to gain an intimate knowledge of all the plays of Shakspeare and some of the greater plays of his predecessors and his later contemporaries. The plays are studied as plays, not as material for philological investigation. The aim is the serious assimilative study of their literary quality, and their dramatic and histrionic value. The pre-existent conditions which made the Elizabethan drama possible, and also the influences which shaped it, are considered in some detail. In courses B, C, and D, devoted to the study of Shakspeare, his plays are read in their chronological order. (Cf. "An Introduction to the Study of Shakspeare.")

A. *Shakspeare's Predecessors.*—In its first part this course deals summarily with the origin of the drama in England, its primitive forms, its development during the middle ages, and the social and economic facts upon which it was then based; with the transforming effects, in the seventeenth century, of humanism, and of the advent of a new class of professional players acting in permanent theaters; and with other influences, native, classical, and Italian, which tended to shape the Elizabethan drama. In the second part of the course are studied certain plays of Lyly, Kyd, Marlowe, Peele, Greene, Lodge, and Nash, whose careers as dramatic writers began before Shakspeare became known as a dramatist. The plays are selected for their importance in the history of the English drama, and for their literary and dramatic value. Mj.

B. *Shakspeare's Plays (1591-1594).*—In this course are studied *Love's Labour's Lost*, *The Two Gentlemen of Verona*, *A Comedy of Errors*, *Romeo and Juliet*, *Henry the Sixth*, *Richard the Third*, *Richard the Second*, *Titus Andronicus*, *The Merchant of Venice*, and *King John*. A survey is taken of Shakspeare's life, the condition of the stage, and the attitude of the Elizabethans toward it. Mj.

C. *Shakspeare's Plays (1594-1603).*—This course is concerned with that period of the dramatist's life in which he ultimately reaches the maturity of genius. The plays studied are: *A Midsummer Night's Dream*, *The Taming of the Shrew*, *Henry the Fourth*, *The Merry Wives of Windsor*, *Henry the Fifth*, *Much Ado about Nothing*, *As You Like It*, *Twelfth Night*, *All's Well That Ends Well*, *Julius Caesar*, *Hamlet*, *Troilus and Cressida*, and *Measure for Measure*. There is included a consideration of comedy and tragedy as understood by Shakspeare. Mj.

D. *Shakspeare's Plays (1604-1611).*—This course covers the period in which the dramatist dealt with the highest themes of tragedy, and includes also his latest plays:

* Not given in 1909-10.

Othello, Macbeth, King Lear, Timon of Athens, Antony and Cleopatra, Coriolanus, Cymbeline, A Winter's Tale and The Tempest. The work concludes with a review of Shakspeare's closing years, and of his relations to his times. Mj.

E. *Shakspeare's Later Contemporaries.*¹—Herein is traced the decline of tragedy and the progress of the comedy of manners. The course comprises a study of selected plays of Ben Jonson and the later Elizabethans, Chapman, Dekker, Middleton, Heywood, Beaumont and Fletcher, Massinger, Webster, Ford, and Shirley. (The required plays are all included in the "Mermaid Series.") It aims to familiarize the student with these dramatists individually, to consider their connections with one another and with Shakspeare, and their relations to their times. Some knowledge of the general course of the national history of the first half of the seventeenth century is necessary for an understanding of the causes underlying the decline of the old drama and its end on the closing of the theaters in 1642. Mj. ASSOCIATE PROFESSOR TROOP.

NOTE.—Prerequisite: Course 10 or its equivalent is prerequisite for any one of the five courses. Any one of them may be taken alone. Students who have completed courses 11-15 or their equivalents may obtain graduate credit by making arrangements in advance with the instructor.

17. *The Historical Development of English Fiction.*—The historical development of narrative prose fiction in English is traced in outline from the later mediaeval prose romancers and story-tellers to the beginning of the twentieth century. A brief preliminary review of the field of fiction is attempted in the initial lessons—the qualities shared by novelist and poet, the material common to both, the similarities in general construction of the novel and drama; and throughout, the Continental influences are noted, sources inquired into, and the modifications in structure and content of the novel in succeeding periods are indicated. Illustrations of the various aspects and principles of the art of fiction are drawn from the representative works selected.

A. *From Sir Thomas Malory to Oliver Goldsmith.*—In this course one work of each of the following authors is read: Malory, Lyly, Sidney, Lodge, Greene, Nash, Bunyan, Defoe, Swift, Richardson, Fielding, Smollett, Sterne, and Goldsmith. The character-sketch of the seventeenth century, and as it is developed by Steele and Addison in *The Spectator*, is briefly dealt with, as are other literary forms which contributed to, or tended to shape, the modern novel. Mj.

B. *From Mrs. Radcliffe and Godwin to Stevenson and Kipling.*—Beginning with the reappearance in England of romantic prose fiction—the "School of Terror," or the "Gothic" romance, and the "School of Theory"—doctrinaire or revolutionary, one work of each of the following authors is read: Walpole, Mrs. Radcliffe, Godwin, Fanny Burney, Maria Edgeworth, Jane Austen, Scott, Cooper, Hawthorne, Lytton, Dickens, Thackeray, Kingsley, Trollope, Reade, Mrs. Gaskell, Charlotte Brontë, George Eliot, Meredith, Hardy, Stevenson, and Kipling. The course concludes with a brief consideration of fiction as affected by the scientific movement of the nineteenth century, particularly by physiology and psychology. Mj. ASSOCIATE PROFESSOR TROOP.

18. *The Works of Robert Browning.*—The work of this "incorrigible optimist" offers unusual problems in subject-matter and in form. The peculiarities of his style, and the varied forms in which he wrote present abundant material for the study of technique, and of general principles of literary art.

A. *Studies in the Early Poems.*—This course gives detailed consideration to the poems published before 1868, thus including much of Browning's most characteristic and suggestive work. M.

B. *"The Ring and the Book" and Dramas.*²—M. MRS. MAUDE RADFORD WARREN AND MISS CRANDALL.

19. *Studies in the Poetry of Tennyson.*—The course deals with the most significant works of this representative nineteenth-century poet. Especial attention is given to his place in the development of English poetry, to the characteristic qualities of his verse, and to his close relation to the general currents of thought in his time. The study includes the early poems, *Maud, In Memoriam, The Idylls of the King*, and minor poems. M. MRS. MAUDE RADFORD WARREN AND MISS BROWN.

¹ Not given during 1909-10.

² Registrations will be accepted after October 1, 1909.

20. English Essayists of the Nineteenth Century.—An advanced undergraduate study of six essayists, including a brief preliminary discussion of the appearance in England of the essay, and its development as a literary form. The work is based upon typical essays of Lamb, De Quincey, Macaulay, Carlyle, Ruskin, and Arnold. Newman or Hazlitt may be substituted for De Quincey if desired. The method of study is the biographical and historical, and to a limited extent the philosophical. Emphasis is laid upon the intimate relation of literature to the forces of social life. Mj. ASSOCIATE PROFESSOR TROOP.

21. American Literature: The Renaissance of New England.—This course embraces a study of Emerson, Whittier, Longfellow, Lowell, Holmes, and Hawthorne—the representative writers of that period of intellectual activity in New England which roughly corresponds with the first half of the Victorian era. The various ways in which this activity expressed itself—in oratory, scholarship, Unitarianism, transcendentalism, and reform—are incidentally examined in so far as they affected or were affected by these writers. Sufficient attention is given to the general history of American literature to make this period intelligible to the student. Mj. ASSOCIATE PROFESSOR TROOP.

22. Modern Realistic Fiction.—This course is designed to present the content and method of a typical group of realistic novels. The following works, or their equivalents, will be read: George Eliot's *Silas Marner*, Hardy's *Tess of the D'Urbervilles*, Ward's *Lady Rose's Daughter*, Howells' *A Modern Instance*, Meredith's *The Egoist*, Tolstoi's *Anna Karenina*, Zola's *L'assommoir*, Freytag's *Jörn Uhl*, Barrie's *Tommy and Grizel*, Fogazzaro's *The Patriot*. Mj. MRS. MAUDE RADFORD WARREN AND MISS BROWN.

23. The Short Story in English and American Literature.—In connection with a brief résumé of the history of the short story in England and America, students will read, critically, a number of representative stories by Irving, Hawthorne, Poe, Dickens, Bret Harte, Henry James, Page, Cable, Stockton, Davis, Mary E. Wilkins, Hardy, Doyle, Stevenson, Kipling, Hewlett, and others. The critical study will be devoted principally to investigation of the methods by which effectiveness is secured. Mj. ASSISTANT PROFESSOR MARSH.

24. The Principles of Literary Criticism.—This course presents and compares some of the most influential critical tenets; examines the relations of literature to other arts, and the support given to criticism by recent studies in the psychology of artistic production. Mj. MISS CRANDALL AND MISS BROWN.

25. The Celtic Literary Revival.—A study in the literature of the modern Celtic revival presupposes some acquaintance with Celtic myth, legend, and romance. The course, therefore, begins with this subject, following with the living folk literature, fairy tales, folk tales and songs, and then passing to the work of the modern poets and dramatists, with a brief sketch of the nature of Celtic influence on English literature. Yeats, Synge, Hyde, Lady Gregory, Ethna Carberry, and other writers will be read. M. MISS CRANDALL.

26. Elementary Old English.—Grammar and reading, corresponding to course 21 in residence. Mj. ASSISTANT PROFESSOR MARSH.

27. Advanced Old English.—*Beowulf*—An elementary reading course in Old English poetry. (Informal.) Mj. ASSISTANT PROFESSOR MARSH.

28. The Teaching of English Composition in Secondary Schools.—This course will include a survey of methods in American and foreign schools, and will outline the problems involved in teaching adolescents the art of literary expression. These problems arise mainly from three circumstances: first, the fact that composition is at the same time a fine art and a tool in every-day business intercourse; second, that like the teaching of literature it is based on the psychology of adolescence; and third, that it is a most important agent in education, being the readiest medium of self-expression. Mj. MISS CRANDALL AND MISS BROWN.

29. The Teaching of English Literature in Secondary Schools.—This course proposes a definite aim in teaching based on the function of art in education. The main topics involved are the place of literature in general culture, its special relations to adolescence, the psychology of adolescence, the course of study, and methods of study. Mj. MISS CRANDALL AND MISS BROWN.

XVI. GENERAL LITERATURE

This Department offers work to two distinct classes of students: (1) those doing graduate work in comparative literature, for whom a knowledge of the original languages and some previous training in literature are indispensable; (2) those doing undergraduate work, who wish to become acquainted with foreign literatures for the purpose of general culture, and for whom a reading knowledge of the original languages, though desirable, is not necessary.

1. **German Literature** (in English).—This course attempts a survey of the principal movements in German Literature from its first appearance to the present day. Representative authors are studied and constant attention is given to the connection of social and intellectual life with German poetry. Frequent parallels are drawn with corresponding developments in English literature. Mj. DR. VON NOÉ.

2. **Goethe's Life and Works**.—The work of Goethe, who has been called by Matthew Arnold "the greatest poet, the clearest, the largest, most helpful thinker," will be studied mainly from the point of view of its contribution to the world's history of thought and culture. Its relation to the great cultural movements of his age will be studied in detail, and a careful literary analysis will be made of the chief dramas, novels, and lyrics. The work will consist (1) in answering critical and interpretative questions on the text; (2) in writing brief studies on topics suggested by the cultural setting, by lines of thought to be followed through several of Goethe's works, or by comparison with related works in other literatures. Prerequisite: courses 4 and 8 in English or their equivalent. Mj. DR. KUEFFNER.

3. **Milton and Dante**.—This advanced undergraduate course comprises the critical study of Milton's *Paradise Lost*, the Epic of Protestantism, and the careful reading (in translation) of Dante's *Divina Comedia*, the Epic of Catholicism. Dante, who interprets all Mediaeval Europe, is the closest analogue of Milton, who represents Puritan England and the whole spirit of Puritanism. They preserve and express in forms of epic poetry the profoundest sentiment and highest spiritual aspirations of their respective ages. To bring out these facts and to present in outline the religious philosophy of each of the poets is the main purpose of this course of study. In the case of the English author considerable attention is given to the form through which the thought reaches the reader, and to the peculiar power which lies in Milton's style. It is presupposed that the student has some knowledge of the nature of poetry in general, of its different varieties, and of the various kinds of rhymes, meters, etc. Mj. ASSOCIATE PROFESSOR TROOP.

4. **Studies in Recent Drama**.—In the drama produced in England and on the continent since Ibsen began to write, opportunity is offered for the study of some of the most significant and representative literature of our time. This course offers plays by Ibsen, Bjornsen, Sudermann, Hauptmann, D'Annunzio, Phillips, Jones, Pinero, Shaw, Moody, Sardou, Rostand, Echegaray, Yeats, and Maeterlinck. Mj. MRS. MAUDE RADFORD WARREN AND MISS BROWN.

XVII. MATHEMATICS

ELEMENTARY

1. **Complete Arithmetic**.—This course is intended as a review of the general principles of arithmetic. While serving the student, it will be helpful to grade teachers preparing for examination. Part I treats of general number, the four fundamental operations, factoring, fractions, and practical applications of denominate numbers. Part II drills upon the applications of percentage, and actual methods of modern business. Part III considers ratio and proportion, powers and roots, mensuration, and the metric system. Numerous problems are given to illustrate all points. Hamilton's *Complete Arithmetic*. [This course does not command credit.] Mj. ASSISTANT PROFESSOR HOOVER.

ACADEMY

2. **Elementary Algebra**.—

A. This course presupposes no acquaintance with the subject, and treats of general number, algebraic number, the four fundamental operations, integral alge-

braic equations, type-forms in multiplication and division, factoring with the usual applications, fractional and literal equations in one unknown number, interpretation of solution of problems, simultaneous linear equations, with solutions of numerous problems and interpretations, indeterminate linear equations, evolution and inequalities. Every topic is illustrated by many examples. The theory is thorough and rigorous. Fisher and Schwatt's *Higher Algebra*. Mj.

B. Continues A, taking up irrational numbers, surds, imaginary and complex numbers, quadratic equations, equations leading to quadratics, roots of quadratic equations, adaptation to questions in maxima and minima, equations of higher degree than the second, irrational equations, simultaneous quadratic and higher equations, ratio, proportion, variation, theory of exponents, the progressions, the binomial theorem for a positive integral exponent, logarithms developed to application of tables in computation, compound interest and annuities. Fisher and Schwatt's *Higher Algebra*. Mj. ASSISTANT PROFESSOR HOOVER.

3. **Plane Geometry.**—The theory is well illustrated by numerous original exercises. The first major comprises the first three books; the second, the remainder of plane geometry. Wentworth's *Plane and Solid Geometry*. (Revised.) DMj. ASSISTANT PROFESSOR HOOVER.

4. **Solid Geometry.**—Here, as in plane geometry, emphasis is laid on exercises calling for original work. Wentworth's *Plane and Solid Geometry*. Mj. ASSISTANT PROFESSOR HOOVER.

COLLEGE

5. **Plane Trigonometry by the Laboratory Method.**¹—It is one of the tenets of the laboratory method of mathematical instruction that the student shall approach each principle and each problem from at least two of the following standpoints: the graphical (by use of drawings, generally to scale), the analytical (by use of formula), the arithmetical (by use of tables), and the mechanical (by simple experiments or by appeal to simple physical principles). Experience shows that the total effect of the views from the various angles gives greater mastery than a single view, however clear. At the outset of the course in trigonometry, the graphical and arithmetical views are emphasized. The obvious properties of the graphs (on square-ruled and polar paper) lead naturally to all the fundamental formulae of plane trigonometry. This method is in marked contrast to the current method by which each formula makes its appearance from some unseen source, to be followed by a more or less artificial proof. When the concepts and formulae of trigonometry are thus naturally acquired, the student proceeds to the usual computations and applications as given in a standard text. But graphical computation also is emphasized, first on pedagogical grounds, next for purposes of check, and finally for its intrinsic importance to engineers and others who require fairly accurate, but rapid, solutions. Mj. ASSOCIATE PROFESSOR DICKSON.

6. **Plane Trigonometry.**—The student is expected to examine the theory of the subject carefully and give evidence of his mastery of it by working numerous examples. Special attention is given to computation in which Hussey's or Bremikers' tables are used. The course covers about the first two hundred pages of the text, Granville's *Plane and Spherical Trigonometry*. For a review and more advanced course in this subject, Chauvenet's text is used (cf. course 7.) Mj. ASSISTANT PROFESSOR HOOVER.

7. **Spherical Trigonometry.**—The work is based on the latter part of Chauvenet's *Plane and Spherical Trigonometry*. (Informal.) M. ASSISTANT PROFESSOR HOOVER.

8. **College Algebra.**—This includes chapters in permutations and combinations, probability, variables, and limits, infinite series, binomial theorem for any rational exponent, undetermined coefficients, summation of series, exponential and logarithmic series, determinants, and theory of equations, with abundant exercise in the solution of illustrative examples. Fisher and Schwatt's *Higher Algebra*. Mj. ASSISTANT PROFESSOR HOOVER.

9. **Plane Analytic Geometry.**—The student with good command of the preceding courses secures in this course a control of the elementary processes and

¹ Not given during 1909-10.

principles of the powerful science of analytic geometry—a science of systematic application of algebra and trigonometry to the study of problems of geometry. For beginners, Smith and Gale's *Introduction to Analytical Geometry, Plane and Solid*, is used. For those having some acquaintance with the science, Loney's (Plane) *Co-ordinate Geometry* is used. (Informal.) Mj. ASSISTANT PROFESSOR HOOVER.

10. **Solid Analytical Geometry.**—C. Smith's *Solid Geometry*. (Informal.) Mj. ASSISTANT PROFESSOR HOOVER.

11. **Calculus (Culture Course).**—This course is for those who do not wish to pursue the longer course in the Calculus but who nevertheless desire an introductory knowledge of the subject sufficient at least to gain an idea of the way in which this potent instrument is used in attacking the practical problems of geometry, mechanics, physics, and other sciences. It will also serve the purpose of those who wish to make preliminary preparation for the more exhaustive study of the subject. It presupposes a working knowledge of trigonometry, college algebra, and the elements of analytical geometry. Mj. ASSOCIATE PROFESSOR SLAUGHT AND MR. STOUT.

12. **Calculus.**—This subject is presented in two majors, the first treating of the differential, and the second, of the integral calculus. The fundamentals are carefully studied and find extended and varied application in the selected problems. Osborne's *Differential and Integral Calculus*. DMj. ASSISTANT PROFESSOR HOOVER.

13. **Advanced Calculus.**—Especial attention is given to the theory. Byerly's *Differential and Integral Calculus* (latest edition). (Informal.) DMj. ASSISTANT PROFESSOR HOOVER.

14. **Analytical Mechanics.**—An elementary course, requiring a good working knowledge of the previous courses. The main divisions of the subject, statics and dynamics, are well illustrated by typical examples. Bowser's *Analytical Mechanics*. Mj. ASSISTANT PROFESSOR HOOVER.

15. **Elements of Theories of Probability and of Least Squares.**—In this course enough of the mathematical theory will be given to fit the student to pursue the following course with profit. The fundamental conceptions are carried far enough to put the student in practical possession of the theories of these subjects. Mj. PROFESSOR MYERS AND MR. BRESLICH.

16. **The Theory of Errors.**—This course requires a fair academic knowledge of enough differential and integral calculus to make clear the meaning and use of the probability-integral. It will have little to do with the theory of probabilities or of least squares further than relates to the discussion of erroneous observational data and the best-known and most practicable methods of eliciting from such data their content of truth. Mj. PROFESSOR MYERS AND MR. BRESLICH.

17. **Advanced Theory of Equations.**—The earlier part of this course gives a very complete treatment of the theory of equations; the latter part includes determinants, symmetric functions, invariants, transformations, substitutions, and groups. Burnside and Panton's *Theory of Equations*, fifth ed. (Informal.) DMj. ASSISTANT PROFESSOR HOOVER.

18. **Differential Equations.**—This course presupposes a good working knowledge of Calculus. Johnson's *Differential Equations*. (Informal.) DMj. ASSISTANT PROFESSOR HOOVER.

19. **Projective Geometry.**—Reye's *Geometrie der Lage*. (Informal.) Mj. PROFESSOR MOORE.

20. **Introduction to Analysis.**—A somewhat critical study of the fundamental elementary notions of Analysis. Hardy's *A Course in Pure Mathematics*; Bromwich's *Infinite Series*. (Informal.) DMj. PROFESSOR MOORE.

GRADUATE

21. **History of the Science of Mathematics.**—This course is intended to put the student in possession of a knowledge of the most fruitful epochs and of the most salient influences of mathematical history; to make him more keenly appreciative of the fact that his science is and always has been a growing science, to inform him that the attitude of mind exhibited by the works of the great mathematicians is most con-

ducive to progress today; in short, to assist the mathematical student to a more intelligent identifying of himself with those men and movements which are making for mathematical advance at the present time. Mj. PROFESSOR MYERS AND MR. BRESLICH.

22. History of the Teaching of Elementary and Secondary Mathematics.—Especial attention is here given to the historic order of evolution of the subject-matter of arithmetic, algebra, geometry, and trigonometry, and to the ideas which, among the various peoples who have contributed to these subjects, have determined the place and function of these subjects, from age to age, in the education of the youth. The work will be conducted from the higher point of view of the teacher and with reference to the meaning, for current teaching of these subjects, of the historic stages through which they have passed to reach their present status in school curricula. Mj. PROFESSOR MYERS AND MR. BRESLICH.

23. Advanced Analytical Geometry.—Charles Smith's *Conic Sections*, with chapters on trilinear co-ordinates, reciprocation, etc. (informal, Mj); or Whitworth's *Modern Analytical Geometry*, limited to the trilinear and quadrilinear notation (informal, DMj); or Salmon's *Conic Sections*, extended to include the invariant theory, involution, projection, etc., a standard treatment. (Informal.) DMj. ASSISTANT PROFESSOR HOOVER.

24. Differential Equations.—Forsyth's *Differential Equations*. (Informal.) DMj. ASSISTANT PROFESSOR HOOVER.

25. Spherical Harmonics.—This course gives chief attention to such special forms of partial differential equations as integrate into the standard series and functions called for in advanced studies in heat, light, vibration, electricity, and gravitation. The course will be of special value to students or teachers of mathematics, advanced physics, mechanics, and astronomy, whose mathematical training has not been as extended as it should have been. Emphasis will be laid about equally upon academic and pedagogic phases of study. Practical electricians and engineers of good attainment will find the course especially helpful to them. Mj. PROFESSOR MYERS AND MR. BRESLICH.

26. Theory of Functions of a Real Variable.—Hobson's treatise on the subject will be used. (Informal.) DMj. PROFESSOR MOORE.

27. Theory of Functions of a Complex Variable.—Harkness and Morley's *Introduction to Analytic Functions*; Burkhardt's *Einführung in die Theorie der Analytischen Funktionen*. (Informal.) DMj. PROFESSOR MOORE.

28. Elliptic Functions.—Tannery et Molk's *Elements de la théorie des fonctions elliptiques*. (Informal.) DMj. PROFESSOR MOORE.

29. Algebra.—Weber's *Lehrbuch der Algebra*. (Informal.) DMj. PROFESSOR MOORE.

30. A Theory of Numbers.—Bachmann's *Zahlentheorie*. (Informal.) Mj. PROFESSOR MOORE.

SCHOOL OF EDUCATION

31. Review Course in Mathematics for the Elementary School.—This is designed primarily for the review and restudy, from the teacher's point of view, of the subject-matter upon which the mathematical work of the elementary schools should be based. It deals largely with the applications of mathematics to quantitative problems and questions of school environment and everyday life. The number work of geography, nature-study, commerce, business, of construction, and of the industries will receive special emphasis. Out of work drawn from these various sources the science of arithmetic will be derived. The bulk of the work will consist in the actual solution of problems drawn from modern life and representing real conditions. The course will be given under the following heads: (1) work in counting, indefinite comparison and measurement, covering the period from Grade I to Grade V, inclusive; (2) work in direct measurement, definite comparison, and ratio, covering the period from Grade III to Grade VII, inclusive; (3) direct and indirect measurement and comparison, covering the period from Grade V to Grade VII, inclusive; (4) observational and experimental geometry; inductive geometry and generalized arithmetic, covering the

period from Grade V to Grade X, inclusive. [This course commands School of Education credit only.] Mj. PROFESSOR MYERS AND MR. BRESLICH.

32. Pedagogy of Mathematics of the Elementary Schools.—This course will be based upon the preceding course or its equivalent, and will deal with its educational aspects and pedagogical justifications. While concerning itself chiefly with modern reasons and methods for the teaching of arithmetic, it will not ignore the historical forces and factors out of which the best modern procedure has been evolved. Laboratory and field-work in mathematics teaching will be studied, and the psychological grounds for these means of imparting mathematical knowledge will be recapitulated. The kind and place of elementary geometry and algebra in the grades will be considered. The following synopsis will indicate the nature of the work: (1) correlated, applied, and formal number work in grades I to V; (2) theoretical and practical arithmetic of business, of the industries, of elementary science, and of the builder's trade; (3) such geometry and algebra as the pupil is ready for and as will properly graduate his steps toward the high school; (4) the correlation of these three lines of work into an organic whole for the elementary pupil. Mj. PROFESSOR MYERS AND MR. BRESLICH.

33. The Teaching of Secondary Mathematics.—This course presupposes a good knowledge of high-school geometry and algebra. A knowledge of plane trigonometry is desirable, though not required. The course will deal with the problems of the high-school teacher so far as related to the actual work of the classroom. Considerable work in gathering real material and preparing plans for topics of local, general, scientific, social, or industrial interest will be required. The following summary will show the phases of high-school mathematics teaching to be dealt with: (1) high-school arithmetic, geometry, algebra, and physics taught abreast during the first four years; (2) laboratory work in geometry, algebra, trigonometry, and elementary mechanics during the second and third years; (3) laboratory and field-work in secondary mathematics and sciences, together with much abstract work in the third and fourth years; (4) the correlation of this work into a unified mathematical whole. Mj. PROFESSOR MYERS AND MR. BRESLICH.

34. The Psychology of Number.—The work of this course requires a good knowledge of the subject of arithmetic and some power of abstract thought. Questions having to do with the psychological genesis and growth of the number concept are examined. The psychologic grounds for and against the ideas which have dominated pedagogic method in the elementary mathematics are critically examined. The variable unit conception of number is studied with special care. The purpose of the course is to make teachers of elementary mathematics clearly conscious of the function of this subject in elementary education, thereby rendering this practice immune from contagion of shallow mechanical devices as methods of training the number faculty of children. Mj. PROFESSOR MYERS AND MR. BRESLICH.

35. The Mathematics of History, Geography, Nature-Study, and Constructive Work for Elementary Schools.—The purpose of this course is to aid teachers of all grades of the elementary schools to gather and organize for use in mathematics the quantitative material of the central subjects. Besides furnishing much problem material, it gives samples of ways to systematize this material to meet the needs of arithmetic both as a science and an art. Without neglecting the mathematical requirements of elementary schools, it shows how to teach the uses of arithmetic and the elements of algebra and geometry in the affairs of everyday life. It is essentially a course on the mathematics of the central subjects of the elementary school. Its aim is to teach elementary school mathematics through its uses, and to assist in unifying the school work. Mj. PROFESSOR MYERS AND MR. BRESLICH.

36. Mathematics for Teachers and Students of Commercial Geography and Industrial History.—The work of this course is based upon commercial geography and industrial history. It deals mainly with comparative studies of the industries and of the industrial products of our nation today with those of former times and of other leading nations. The graphical method is the dominant mathematical procedure. The problems are taken largely from the latest statistical sources for corn, cotton, coal, rice, coffee, etc., and from the bulletins of the United States departments, and from agricultural experiment stations. An important purpose of the course is to furnish

numerous exemplifications and suggestions as to ways of using this material in the teaching of mathematics. The course is intended to help both regular grade teachers and special teachers of geography and history, in either elementary or secondary schools, who desire to correlate more closely industrial and commercial studies with the regular mathematical work. Mj. PROFESSOR MYERS AND MR. BRESLICH.

37. Mathematics for Teachers of Handicraft.—This is a course for teachers of either elementary or secondary schools. It will concern itself with a study of the relation and meaning of the work in manual training, domestic science, and drawing and designing to the mathematical work already in the curricula of the public schools. It will assist special teachers of the arts, to relate their work more intelligently and more organically to the all-round work of their pupils. The purpose of the course is to study and to organize mathematical subject-matter from the viewpoint of the arts and technologies. Mj. PROFESSOR MYERS AND MR. BRESLICH.

38. Mathematics for Teachers and Students of Home Economics.—This course is designed for both actual and intending teachers of home economics in either the elementary or secondary school. It presupposes a fair academic knowledge of arithmetic, elementary algebra, and geometry. It covers the following three phases of the professional duty toward mathematical work of teachers of home economics; (1) the modern point of view of the teaching of mathematics in elementary and secondary schools; (2) the educational purposes and grounds that are common to home economics and mathematics in these schools; (3) the best methods of solving and of pedagogically evaluating the mathematical problems that arise in the teaching of home economics in these schools. Some of the sources whence the problems are drawn are cooking, drawing, heating and ventilating houses, chemistry of foods, dietetics, etc. Mj. PROFESSOR MYERS AND MR. BRESLICH.

39. Astronomy for High-School Teachers.—This is a course for high-school teachers who desire to make astronomy a more vital force in secondary education than is possible with a mere textual description of astronomical facts and phenomena. Teachers of all branches of secondary science recognize that the day of mere textbook science is past, and that the reason astronomy is being so generally dropped from the high school is that, as the subject is usually taught, both its scientific and its educational value are very largely lost. This is a course along experimental, observational, and scientific lines. Mj. PROFESSOR MYERS AND MR. BRESLICH.

40. Plane Trigonometry and Surveying with Surveyor's Tape and Extemporized Apparatus.—Most of the problems of elementary surveying will be included in this course. It is to assist teachers of secondary mathematics, who can expend but little, if any, money for equipment, to vitalize their teaching by introducing into their work such practical applications of the mathematical problems proposed by the class as will make the propositions appeal to the class as presenting real problems needing solution. Most surveying, though ordinarily done with expensive instruments, can be done quite well with a tape and water level. To execute the work in this way makes more mathematical work necessary, but this is not an objection when the prime purpose is mathematical, rather than practical. The few instruments needed for the course may be rented from the University for a small fee. Mj. PROFESSOR MYERS AND MR. BRESLICH.

41. Surveying and Plane Trigonometry Taught Simultaneously.—This is for high-school teachers or for individuals who have had plane geometry and elementary algebra through quadratics. It will be useful for persons who cannot, or do not care to take time enough for a course in trigonometry before beginning with its most common uses. Such and so much trigonometry as is needed to do the work in surveying will be taught when and where the surveying calls for it. The course may be so taken as to count for either one or two majors, according to the quantity of the work done. It will be given only to persons who have access to the use of a transit, engineer's tape, and the customary scales for use in plotting topographic work. Topographic maps must be submitted to the instructor at the expense of the student. Mj or DMj. PROFESSOR MYERS AND MR. BRESLICH.

42. The Teaching of College Algebra, Trigonometry, and Analytics.—A good academic knowledge of these subjects is required for admission to this course. The following topical enumeration will suggest the nature of the questions considered:

(1) the purpose of college algebra, trigonometry and analytics in the curriculum of the college; (2) method of teaching these subjects as determined by this purpose; (3) the correlation idea as applied to Freshman college mathematics; (4) the laboratory method in Freshman college mathematics; (5) use of graphical work early and all along; (6) applications of these subjects in teaching them; (7) dangers of this teaching becoming too abstract; (8) order and sequence of special topics. Any recent text in each of these subjects will answer. Mj. PROFESSOR MYERS AND MR. BRESLICH.

43. **The Teaching of Differential and Integral Calculus.**—A good academic acquaintance with these subjects is required for admission into this course. The following topics will indicate the character of the work: (1) teaching calculus through its uses in mathematical physics and mechanics; (2) the historical order of development of the subject: (a) method of exhaustions, (b) method of indivisibles, (c) method of infinitesimals, (d) method of rates; (3) the best conception of the fundamental notions of calculus for beginners; (4) the gradual working-out by the student of the notion of the integral as an anti-derivative, and consequences; (5) notions of the calculus in the high school; (6) graphical calculus. Mj. PROFESSOR MYERS AND MR. BRESLICH.

History of the Teaching of Elementary and Secondary Mathematics.—(Cf. description under Mathematics 22). Mj. PROFESSOR MYERS AND MR. BRESLICH.

History of the Science of Mathematics.—(Cf. description under Mathematics 21.) Mj. PROFESSOR MYERS AND MR. BRESLICH.

The History of Astronomy.—(Cf. description under Astronomy 2). Mj. PROFESSOR MYERS AND MR. BRESLICH.

XVIII. ASTRONOMY

1. **Descriptive Astronomy.**—An elementary general culture course designed: (1) to furnish an idea of the principles, methods, and results of the science; (2) to show the steps by which the remarkable achievements in it have been attained; and (3) to unfold that extended horizon which astronomy has laid open. This work covers the recent investigations respecting the origin and development of the solar system. Moulton's *Introduction to Astronomy*. (Informal.) Mj. ASSOCIATE PROFESSOR MOULTON AND DR. MACMILLAN.

2. **The History of Astronomy.**—This is a culture course on the subject for persons who desire to familiarize themselves with the scientific ideas, methods, and results that have determined scientific progress down to recent times. The history of no science so fully exhibits the complete scientific method as does the history of this oldest, most complete, and most exact of all the sciences. A careful study of it may well constitute a part of a liberal education. It is both stimulating and directly helpful to teachers of high-school science and mathematics. A real basis for much of the high-school mathematics is furnished by supplying the astronomical setting from which it sprang. Mj. PROFESSOR MYERS AND MR. BRESLICH.

3. **Celestial Mechanics.**—A treatment of the dynamics of the solar system, including the contraction theory of the heat of the sun, the attractions of bodies, the two-body problem, the general integrals of motion, the three-body problem, perturbations, and determination of orbits. Moulton's *Introduction to Celestial Mechanics*. Prerequisite: course 12 in mathematics or its equivalent. (Informal.) DMj. ASSOCIATE PROFESSOR MOULTON AND DR. MACMILLAN.

Astronomy for High-School Teachers.—(Cf. description under Mathematics 39.) Mj. PROFESSOR MYERS AND MR. BRESLICH.

XIX. PHYSICS

1. Elementary Physics.—

A. *Mechanics, Sound, and Heat.*—This course corresponds essentially to the first major of course 0 in residence, and is designed to cover the first half-year's work in elementary physics as given in high schools and academies. A text is followed rather closely in the reading lessons, supplemented by new problems and references to other

textbooks. The apparatus for the required laboratory work, together with detailed instructions for setting up the apparatus and performing the experiments, are packed in a special case and shipped to the student. Reports on both the reading and laboratory work are submitted by the student for approval or correction. A deposit of \$15 is required for the loan of the apparatus. This will be refunded when the same is returned intact, less expressage and \$3, the loan fee. Mj.

B. *Electricity, Magnetism, and Light*.—A continuation of course A and the equivalent of the second half-year of high-school physics. The plan for text and laboratory work laid down under course A is followed in this course. A deposit of \$10 is required for the loan of apparatus. This will be refunded when the same is returned intact, less expressage and \$2.50, the loan fee. Mj. PROFESSOR MILLIKAN AND MR. MOORE.

NOTE.—Courses A and B together constitute the admission unit in physics.

XX. CHEMISTRY

1. General Inorganic Chemistry (sequel to High-School Chemistry).—

A. This course furnishes a review and a continuation of "Elementary Chemistry" and, together with B, forms the link between the average high-school course in chemistry and the courses in "Qualitative Analysis" which follow. The course includes a study of the metallic and non-metallic elements and their chief compounds. It includes also the study of the laws and principles of the science and their use in explanation of chemical phenomena. The laboratory work, which is an important part of the course, affords opportunity for gaining direct knowledge of the different substances, their modes of manufacture, and their properties. In the choice of illustrations preference is given to the industrial and other applications of chemistry. Prerequisite: a course in inorganic chemistry as ordinarily given in high schools. Mj.

B. Continuation of course A. Mj. PROFESSOR A. SMITH AND MR. MENZIES.

NOTE.—These two courses cover the ground of courses 2S and 3S in residence. There are in all 80 lessons. In view of the fact that different students will have different degrees of preparation, however, the number of lessons may be varied by omitting such parts of the subject as the student may already have wholly mastered. In this way the work will be adapted to individual needs, and waste of time and effort will be avoided. For information regarding apparatus see Note 2, below.

2. Qualitative Analysis.—

A. This course aims to present the fundamental methods of qualitative analysis. The analytical reactions of the most important metals and acids are studied. This is done in such a way that the student learns the art of performing tests, and comes to understand how the methods of separation and detection are based upon a judicious selection and arrangement of these tests. During the course each student analyzes a number of simple salts, and a few mixtures which contain, in each case, only the metals or acids of a single group. Qualitative analysis has been modified by the influence of physical chemistry. The theories of solution and of electrolytic dissociation, and the study of problems in chemical equilibrium have all contributed to furnish analytical chemistry with a scientific foundation which it never possessed before. Course A is planned to develop the subject with this scientific, theoretical foundation and at the same time to give a thorough foundation in *systematic analysis*. Mj.

B. This course continues course A and gives the student practice in the analysis of simple salts, leading up to the analysis of simple mixtures, and, finally, to rather difficult mixtures in which the metals and acids are to be determined. Twenty to twenty-five "unknowns" will be analyzed. Mj.

C. This course is a continuation of courses A and B. The work consists in the analysis of complicated mixtures, and especially in the analysis of minerals and commercial products. Mj. PROFESSOR STIEGLITZ.

NOTE 1.—Prerequisite: These three courses cover the ground of the second year of college work in chemistry. For admission to A a year of general chemistry, including laboratory work, is required.

NOTE 2.—The apparatus required in "General Inorganic Chemistry" or in "Qualitative Analysis" will not cost over \$15 in either case. It will be sent upon the receipt of a deposit of \$15. When the apparatus is returned the deposit will be refunded, less expressage, breakage, and the loan fee. The loan fee is charged for the use of apparatus, and, in the case of "Qualitative Analysis," for chemicals which are sent in the form of mixtures for analysis. The University is not allowed to supply reagents. The loan fee for each major of "General Inorganic Chemistry" is \$1.50 and for each major of "Qualitative Analysis" \$2.50. When apparatus is not furnished mixtures for analysis cost \$1 per major.

XXI. GEOLOGY

1. Physiography.—The course embraces the following general subjects: (1) the form of the earth as a whole, and its relation to other members of the solar system, particularly the sun and the moon, with the consequent changes in the length of day and night and the seasons; (2) the atmosphere—its constitution, temperature, pressure and movements, weather changes and climate; (3) the ocean—its constitution, temperature, movements, geologic activities, coastline phenomena; (4) the land—the geologic processes by which the earth's topography has been chiefly determined, and the varied topographic types which result therefrom, including the study of the origin and development of plains, plateaus, river valleys, mountains, volcanic cones, islands, and seashore features. The effects of man's physical environment upon his distribution, his habits, and his occupations will be continually emphasized. Topographic maps and folios will be studied, and the maps will be used in connection with land forms. The rocks and minerals forming the earth's crust will be treated as fully as the course permits. The last lessons will give the student some opportunity to do individual field-work. Laboratory methods will receive attention throughout the course. The course covers the ground of course 1 offered in residence, and is suited to the needs of those who teach physical geography and physiography in preparatory schools. Mj. DR. CALHOUN.

2. General Geology.—This course treats of the leading facts and principles of geology, and the more important events of geological history. It embraces the following general subjects: (1) rocks composing the earth's crust; (2) dynamical geology—the work of atmospheric, aqueous, igneous, and organic agencies treated in a manner to supplement the physiographic studies of course 1; (3) structural geology—the origin and structure of the igneous, metamorphic, and sedimentary rock formations; (4) historical geology—a systematic study of the development of the series of geological formations, with especial reference to the evolution of the North American continent. In this connection will be considered the historical development of organic life-forms. This course covers the ground of course 2 in residence, and is adapted to the needs of teachers in high schools and academies, and also to students not intending to specialize in geology. Course 1, while desirable, is not a prerequisite. Mj. MR. TROWBRIDGE.

3. Economic Geology.—This course is designed to give a general knowledge of the principles governing the formation and occurrence of the more important ores and non-metalliferous deposits, and of the conditions, commercial and otherwise, which limit their exploitation. It covers the study of (1) structural materials—including building stones, clays, limes, mortars, and cements; (2) fuels—including coal, petroleum, and natural gas; (3) principles controlling the deposition of ores—including the nature of ores, the forms of ore bodies, and their relations to the structural features of the containing rocks, the formation of cavities in rocks, underground waters, their composition, circulation, and work; (4) ores of metals—including iron, copper, lead, zinc, gold, and silver. No attempt will be made to cover the entire field, but typical districts or occurrences will be studied in each case. Incidentally it is hoped the student will learn how to study a district independently, and to that end he will be put in touch with the general literature of the subject. The general methods of treatment will in each case be outlined. The student is expected to be familiar with the common rocks and minerals. Prerequisite: course 2, or a practical knowledge of geology gained by experience in mining, etc. Mj. ASSOCIATE PROFESSOR EMMONS.

XXI A. GEOGRAPHY

1. General Geography.—The scope of geography, relation to other subjects, the use of globes, models, and maps, the earth as a member of the solar system, a study of land forms, climate, soils, minerals, plants, and animals, with reference to man's distribution and social development. Primarily for teachers of geography in public schools who have not had special training in the subject. Mj. ASSISTANT PROFESSOR BARROWS.

2. Influence of Geography on American History.—A study of the geographic conditions which have influenced the course of American history. Their importance as compared with one another, and with non-geographic factors. Mj. ASSISTANT PROFESSOR BARROWS.

XXII. ZOÖLOGY

1. General Zoölogy.—This course consists of laboratory work and reading, and is especially recommended to (1) those desiring a general culture course; (2) teachers; and (3) those looking forward to the study of medicine. The student must have had some high-school training in science, preferably in chemistry or physics, or both. The laboratory work includes (a) a study of the structure, activities, and life-history of one or two unicellular animals (e. g., Amoeba, Paramoecium); (b) a similar study of one of the higher animals (e. g., the frog, its anatomy, histology, general physiology and development); and (c) a study of karyokinesis (cell-division). All those who are registered in the course in early spring will be required to collect some amphibian eggs. A fee of \$5 will be charged for the materials furnished and loan of slides. Materials furnished are preserved frogs with circulatory system injected, certain reagents not easily obtainable by the student, and an Atlas Science Tablet containing enough note and drawing paper for the course. The slides will illustrate cell-division, histology of the frog, etc. A compound microscope, magnifying 400 times, a hand lens, and a set of dissecting instruments will be needed. The cost of instruments (exclusive of the microscope and hand lens) need not exceed \$3. The cost of books will depend upon the library facilities of the student, but need not in any case exceed \$8. Mj. DR. SHELFORD.

2. General Morphology and Natural History of the Invertebrates.—

A. Protozoa, Porifera, Coelenterata, Platyhelminthes, Nemathelminthes, and Echinodermata.—An introduction to the study of invertebrate animals. The work includes laboratory study of the anatomy, physiology, and, as far as possible, of the life-history of typical forms, together with assigned reading. Special emphasis is laid on the economic importance of the animals considered. The fundamental principles of comparative morphology are kept in view throughout the course. In addition to the study of the material furnished (about thirteen forms) the student will be expected to acquaint himself with some of the typical invertebrates of his own locality, and directions for the collection and determination of such forms will be given. The securing of the protozoa studied in the course is a part of the laboratory work, and since protozoa must be cultivated in infusions, which require from one to three or four weeks, the student should not delay registration until he is ready to begin work. Instructions for making infusions will be sent with the first lessons. Fee for material and loan of more difficult preparations, \$5. Mj.

B. Mollusca, Annulata, and Anthropoda.—Continues A. About twelve forms are furnished. Fee for materials, \$5. Mj. DR. SHELFORD.

3. Advanced Animal Ecology.—This course is designed for students who have taken "Animal Ecology" in residence and consists chiefly of definite systematic field-work. All the animals of certain habitats will be studied in relation to the genesis of their environment and their relations to each other and to the conditions in which they live. The student must consult the instructor before registering for this course. Prerequisite: Animal Ecology (16 or 17 in residence). (Informal.) Mj. DR. SHELFORD.

4. General Morphology of the Vertebrates.—An introduction to the study of vertebrate animals, more especially recommended for teachers of zoölogy and those contemplating the study of medicine. The course is elementary, and may profitably follow course 2, though 2 is not prerequisite. The work will consist of assigned readings and dissection. The following type forms will be furnished for dissection: amphioxus, elasmobranch, and frog or necturus. Observation of the life-history and development and metamorphism of the frog will be expected, to be supplemented by readings on the natural history, geographical distribution and classification of both the elasmobranchs and amphibians. The course covers the ground of course 9 offered in residence. (Informal.) Mj. PROFESSOR WILLISTON.

5. Studies of Birds.—This course involves laboratory work, field studies, and reading. It is planned especially for teachers but it may also be considered a general culture course for persons interested in birds. The student should be able

* Registrations will be accepted after April 1, 1910.

to identify a few of the common birds in his region at sight, and some training in science including physics and zoölogy is desirable though not necessary. The pigeon is dissected and drawings are made of structures studied. Especial attention is given in this work to adaptive structures and their significance in the life of the bird. The field-work involves a study of a selected topic, and the reading is correlated with the laboratory and field studies. All of the work will be adapted to individual condition to a certain extent. A set of simple dissecting instruments, costing not over \$2, will be required. The cost of books will depend upon library facilities and individual need but need not exceed \$6. Mj. DR. STRONG.

6. Mammalian Anatomy.—The anatomy of the cat or rabbit, including thorough dissections of the muscular, circulatory, nervous and visceral system. Recommended as a continuation of course 4 or 5 for teachers of zoölogy or as an independent course for those preparing for the study of medicine. It will be varied somewhat for these two classes of students. This course, if taken after course 4, will cover very nearly the ground of course 13 in residence. (Informal.) Mj. PROFESSOR WILLISTON.

XXIV. PHYSIOLOGY

1. Introductory Physiology.—The object is to develop an appreciation of the human body. This necessitates a knowledge of its structure and the work of its parts separately and as a whole. Knowledge of this kind is a necessary foundation for advance study such as is demanded of students of medicine, pharmacy, dentistry, and kindred subjects. Some information of this kind should be the possession of every intelligent person for without it effective co-operation in the modern methods of healing and preventing disease as practiced by physicians, is impossible. A further use of physiological facts is their application to methods employed to solve many social problems of today. To teachers such knowledge is especially valuable. It enables them to use and conserve the bodily powers both of themselves and of their pupils and to analyze intelligently deficiencies exhibited by their pupils and so make proper adjustments.

A. This is essentially a summary of the history of food in the body. In the *textbook work* after stating the point of view from which the subject is to be attacked, the following topics are discussed: (1) life—theories advanced to explain its nature, conditions necessary for its existence; (2) protoplasm, cells, tissues, organs and their relations and, incidentally, the subject of "division of labor;" (3) blood—its structure, components, use, and how it gains foods; (4) respiration; (5) digestion and digestive fluids; (6) secretion and absorption. In the *laboratory work*, which will require a microscope for a short time (two weeks or so), directions will be given for the study of (1) blood; (2) properties of foods; (3) the changes which food undergoes in the action of the various digestive fluids. Some knowledge of chemistry is essential. Mj.

B. Continuing A, study is made of (1) how the blood with its acquired foods is distributed throughout the body (circulation); (2) how the lymph gets to the various tissues, their physiology and metabolism, are discussed; (3) excretion; (4) animal tissues, their physiology and metabolism, are discussed; (5) animal tissues, their physiology and metabolism, are discussed; (6) physiology of the brain, cord and special senses—their complicated structure with especial emphasis on the paths of conduction in cord and brain. Directions are given for making the necessary experiments to illustrate physiological methods in the study of the physiology of the organs of circulation, muscle, nerve and the organs of special senses. The requisite laboratory equipment will be supplied for an extra fee. Mj. ASSISTANT PROFESSOR LINGLE.

XXVII. BOTANY

1. General Morphology of the Algae and Fungi.—This course consists of twelve exercises covering the ground of the laboratory work of the twelve weeks' course given at the University. The fifty types studied represent all the main groups of algae and fungi. In connection with a study of the structure, development, and relationships

of the various forms, the principal problems considered are: (1) the evolution of the plant body, (2) the origin and evolution of sex, and (3) parasitism, saprophytism and symbiosis. This is pre-eminently a course for beginners, but it is also adapted to the needs of teachers who, though acquainted with the older style of botany, desire an introduction to the more modern phases of the subject. The material in many of the types is sufficient for a class of eight or ten students. An additional fee of \$2.50 is charged for the material and the loan of preparations. The applicant must have access to a compound microscope with a low- and a high-power objective, the latter being a $\frac{1}{2}$, a $\frac{1}{4}$, or a $\frac{1}{8}$, preferably a $\frac{1}{4}$. Mj. ASSISTANT PROFESSOR CHAMBERLAIN.

2. General Morphology of the Bryophytes and Pteridophytes.—A course similar to the one in algae and fungi, and requiring that course or its equivalent as a prerequisite. The structure, life-histories, and relationships of the liverworts, mosses, and ferns are studied in characteristic types. The principal problems considered are: (1) the evolution of the sporophyte, (2) the reduction of the gametophyte, (3) heterospory, and (4) alternation of generations. A compound microscope is needed, as in course 1. There are needed for this work skillfully stained preparations, which necessitate a knowledge of microtechnique. Arrangements have been made whereby a limited number may secure a loan of the necessary preparations for a fee of \$2.50 in addition to the fee for material. No one should register without consulting the instructor. Fee for material, \$2.50. Mj. ASSISTANT PROFESSOR CHAMBERLAIN.

3. General Morphology of the Gymnosperms and Angiosperms.—A course similar to the two preceding courses, and requiring both of them (or their equivalent) as a prerequisite. Aside from a study of the structure and development of typical forms, the most important features of this course are: a study of spermatogenesis, oogenesis, fertilization, embryology, karyokinesis, and a brief survey of Engler's scheme of classification. A compound microscope is needed, as in courses 1 and 2. No one should register without consulting the instructor. Fee for material and loan of the more difficult preparations, \$5. Mj. ASSISTANT PROFESSOR CHAMBERLAIN.

NOTE.—Courses 1, 2, and 3 are designed to give the student a comprehensive view of the structure, development, relationships, and problems of the plant kingdom. The development of a clear, bold style of scientific drawing receives attention in all of these courses.

4. Elementary Plant Physiology.—This course corresponds to course 2 in residence. It aims to give the student a general knowledge of the life-processes of higher plants. The work will consist of experiments illustrating the different topics, together with assigned reading in a standard textbook. It is adequate to meet the needs of high-school teachers. For the experimental work little more apparatus will be needed than that found in the physical and chemical laboratories of the average high school. A list of required articles will be furnished on application. Reports of both reading and experiments will be called for and will be returned with corrections. Mj. PROFESSOR BARNES AND DR. CROCKER.

5. Elementary Plant Ecology.—This course covers essentially the same ground as Coulter's *Plant Relations*, and does not necessarily require previous botanical training though some work in plant analysis and in the study of plant structures is highly desirable. The object of the course is to present to the student the factors which influence the functions, form, and distribution of the common plants of his neighborhood. At first the different forms of leaves, stems, and roots are studied; then the plant is taken as a whole, and the advantages given it in the struggle for existence because of a particular leaf, root, or stem structure, are considered. Under the subject of plant stems, the identification of the common trees is required. The work may be carried on entirely out of doors, and no microscope is required. Mj. ASSISTANT PROFESSOR COWLES AND MR. FULLER.

6. Ecological Plant Anatomy.—This course is a continuation of course 5, being a microscopic examination of the structures studied in that course. It involves the careful study of the absorptive, conductive, synthetic, protective, and storage tissues of plants in relation to their functions. Special attention is given the variations of structures in so far as they depend upon changes in environment. Students who elect this course should have a knowledge of elementary botany, and should have access to a compound microscope. A knowledge of German is highly desirable. Fee for material and loan of slides, \$2.50. Mj. ASSISTANT PROFESSOR COWLES AND MR. FULLER.

7. Field Ecology.—This course is designed primarily for those students who have taken courses in ecology, and who desire to pursue further investigations along this line. The work consists very largely of systematic study in the field. A definite region or plant formation may be made the subject of study, or some problem in the ecology of plant structure or behavior may be selected. (Informal.) Mj. ASSISTANT PROFESSOR COWLES.

8. Elementary Forestry.—The principal subjects covered by this course are: (1) the identification of trees by the use of keys and other helps; (2) the life-relations of trees, that is, trees as influenced by light, soil, temperature, wind, animals, and by the struggle for existence; (3) the composition and distribution of the forests of the United States, involving the making of distributional maps; (4) some economic aspects of forestry, namely the proper care and management of the forest studied, including plans for improvement, cuttings for reproduction, and for protection from fire. The field for study will be some limited area of forest to which the student has access. The course is designed as an introduction to work in forestry schools, although it will be equally valuable to those who desire to become acquainted with the life-history of a forest and with the more important forest problems. As the instructor spends a considerable part of each summer in the northern woods beyond regular mail service the student should plan to do as much of the work as possible during the other seasons of the year. Mj. DR. HOWE.

9. Elementary Plant Anatomy.—A study of the tissues and tissue systems of vascular plants from the standpoint of phylogeny. This work is very different from the old anatomy in which facts were presented without any attempt to relate them to each other. The course deals with the morphology and evolution of the vascular system, and is based upon a comparative study of representative juvenile and adult forms of Pteridophytes, Gymnosperms and Angiosperms. A microscope magnifying about four hundred diameters is necessary. An extensive knowledge of micro-technique is not essential. Directions for preparation of material and making of the necessary mounts will be given in the exercises. Fee for material and loan of slides, \$2.50. Mj. DR. LAND.

10. Methods in Plant Histology.—This course deals with the principles and methods of killing, fixing, imbedding, sectioning, staining, and mounting. The student must have access to a compound microscope magnifying at least 400 diameters, a microtome, and some other apparatus and reagents. A fee of \$2.50 is charged for plant material which is not readily collected at all seasons. No one should register without consulting the instructor. Mj. DR. LAND.

XXVIII. PATHOLOGY AND BACTERIOLOGY

ACADEMY

1. General Bacteriology and the Relation of Bacteria Yeasts and Molds to the Household, Dairy, Industries, and Agriculture.—This is primarily a culture course designed for those who do not wish to go to the expense of setting up a laboratory, and will consist of: (1) simple experiments at home; (2) examination and description of sealed cultures; (3) writing of themes on assigned subjects; (4) selected readings. This course commands only admission credit. Mj. DR. HEINEMANN.

COLLEGE

2. Bacteriological Methods.—The following subjects will be covered: (1) principles of sterilization; (2) manipulation of the microscope; (3) rôle of bacteria in nature; (4) methods of growing bacteria; (5) methods of staining bacteria; (6) description of bacteria; (7) bacteriology of water and milk. The work will appeal especially to students preparing for the medical profession and to practitioners who wish to renew their knowledge of the subject. The applicant must have access to a compound microscope with a low-power and high-power objective. If all the apparatus is purchased it will cost approximately ten dollars exclusive of the microscope, but many of the parts can be extemporized. A complete set of the apparatus needed, packed ready for shipment, will be supplied for \$10. Course 1 is not prerequisite. Mj. DR. HEINEMANN.

3. Advanced Bacteriology.—Designed for those interested in some special branch of bacteriology, e. g., medical, sanitary, agricultural, etc. For example, a major course can be arranged on the study of yeasts and molds, or on the sanitary examination of milk and water. Students must consult the instructor before registering. Prerequisite: course 2. Mj. DR. HEINEMANN.

XLI. OLD TESTAMENT LITERATURE AND INTERPRETATION

(SEE VIII. SEMITIC LANGUAGES AND LITERATURES)

XLII. NEW TESTAMENT LITERATURE AND INTERPRETATION

(SEE IX. BIBLICAL AND PATRISTIC GREEK)

XLIV. SYSTEMATIC THEOLOGY

1. Outline Course in Systematic Theology.—The course is intended to give a general acquaintance with the field of systematic theology, with especial reference to the problems which are today attracting chief attention. The first half of the course is devoted to a general introduction to the subject; the second half to the content of systematic theology. The contents of textbooks prescribed are to be carefully analyzed and criticized on the basis of questions and topics furnished by the instructor. Mj. ASSOCIATE PROFESSOR G. B. SMITH.

2. Christian Ethics.—This course attempts to set forth the moral aspects of the Christian religious experience. The psychological constitution of the moral disposition of the Christian is investigated. The Christian moral ideal is differentiated from the naturalistic theories of ethics set forth by the Greek philosophers and by modern utilitarian and evolutionist schools, and from the theory of supernatural legalism as exhibited in Judaism. The moral motive power of the Christian, and the fundamental canons of moral judgment are discussed, with suggestions as to the method of determining duty in the various fields of human activity. The course thus serves as an introduction to the study of social ethics from the Christian standpoint. The work will be done on the basis of a syllabus with collateral reading. Mj. ASSOCIATE PROFESSOR G. B. SMITH.

3. Apologetics.—This course is intended to acquaint the student with the general outlines of a defense of Christianity. In the first place the content of Christianity which must be defended is sought on the basis of a historical study of the sources and history of Christianity. The ultimate elements of Christian faith are then defined and justified in the light of modern thought. Questions and topics suggested by the required textbooks are to be discussed in written papers by the student. Prerequisite: courses 4, 5, and 6 in the Department of Philosophy or an equivalent. Mj. ASSOCIATE PROFESSOR G. B. SMITH.

4. The Theological Significance of Leading Movements of Thought in the Nineteenth Century.—The philosophy of Kant and of Hegel, the theological principles of Schleiermacher and of Ritschl, Comte and the positive philosophy, the development of biblical criticism, and the rise of the philosophy of evolution, are the chief topics for study. The problems raised for theology by these movements will be carefully considered. Those taking the course should have access to an adequate library, or should be willing to incur considerable expense for books. Prerequisite: course 3 or an equivalent. (Informal.) DMj. ASSOCIATE PROFESSOR G. B. SMITH.

XLV. CHURCH HISTORY

1. Outlines of Church History.—A complete survey of the whole field of church history from the founding of the church in Jerusalem to the present time, with special emphasis upon the Ancient (100–800 A. D.) and Reformation (1517–1648 A. D.) periods. Some of the most important subjects that will come under investigation are: the conflict of the church with heathenism in the Roman empire; the rise and growth of the papacy; heresies, controversies, and parties within the church; the missionary expansion of the western church; the struggle between the papacy and the empire for

supremacy; the rise and progress of the Reformation in Germany, France, Switzerland, England, and Scotland; and the recent development of the Protestant churches in Europe and America. Mj. DR. GATES.

2. **The Protestant Reformation.**—Extent and state of Christendom at the opening of the sixteenth century; new forces that sweep away the old order of things; Zwingli, Luther, Calvin, as expressions of the spirit of the new era; estimate of the movement in its relations to the general historic process. Mj. ASSOCIATE PROFESSOR MONCRIEF.

XLVI. PRACTICAL THEOLOGY

1. **The Art of Preaching.**—This course corresponds to residence course 1 and embraces a study of the character and purpose of the sermon, the methods of preparation, and the manner of delivery. The laws of effective popular discourse are studied inductively in connection with the preparation of sermons by the student. Mj. PROFESSOR SOARES.

2. **Survey Course in Religious Education.**—An endeavor will be made to acquaint the student with the very significant field of religious education now receiving so much attention from all thoughtful workers in church and in general educational lines. In doing this an outline study of child development and the child's religious interests will be made. Such questions as the use of ethics and the application of general educational methods in religious education will be discussed. Special attention will be given to the Sunday school, its equipment, administration, properly graded curriculum, and the training of its teachers. Instruction will be by means of textbooks, topics for special study, reports on local observation of Sunday schools, and questions. The course is intended for pastors, Sunday-school superintendents, and lay workers, and will be adapted to the needs of the individual student. Anyone who has had high-school training can follow the course with profit, but additional work and "Elementary Psychology" as a prerequisite will be required of those who wish University credit for the course. Mj. PROFESSOR SOARES AND MR. EVANS.

NATURAL SCIENCE

SCHOOL OF EDUCATION

1. **Elementary Field-Work.**—This course is based on out-of-door observations and experiences, and is intended, primarily, for those who wish to be able to identify and interpret the nature materials and phenomena of their region. It embraces the following general topics: (1) a description of the topography and general physical characteristics of the region to be studied; (2) the nature of the soil, subsoil, and rock materials of the area; (3) interpretation of any variations in mineral materials of the area and a study of the elementary principles of soil and rock formation; (4) the forces which have molded the topography of the area as evidenced by soils and rocks; (5) study of the plant life of the region with reference to identification, distribution in plant societies, and the elementary factors of control in growth and distribution, including seasonal adjustments; (6) identification of animal forms common to the region, their habits and habitats, conditions influencing their habits and distribution, their influence upon the region. Topographic maps, areal maps, and soil maps of the United States Geological Survey, should be secured and used whenever available. Unidentified materials should be collected and forwarded for identification. This course covers the ground of course 1 offered in residence. Students are advised to register for this course during the Winter Quarter. Mj. MR. I. B. MEYERS.

2. **Advanced Field-Work.**—The work of this course will be directed toward a study of the region, considered as a whole, which lies within convenient reach of the student. It will involve a study of: (1) the physical subdivisions of the area as well as a study of the causes which have given rise to these subdivisions; (2) the physiographic history of the area, its genesis and development; (3) the present content of plant life with reference to the factors which have influenced its entrance, development, and distribution in the area; (4) the present content of animal life, including the factors

* Registrations will be accepted after October 1, 1909.

which have influenced its entrance, development, and distribution in the area. The work presupposes of the student a fair academic knowledge of the principles of physiology, botany, and zoölogy. Mj. MR. I. B. MEYERS.

3. School Gardening and Elementary Agriculture.—The course is intended to include a study of the elementary principles of agriculture necessary to relate the activities of the school to the agricultural life of the country. These activities naturally enter about the school garden; hence these studies include reading and experimental work on the following topics: (1) the planning and planting of the school and home grounds; (2) the place of the school garden, how it should be planned and related to the other departments of the school; (3) soils, their physical and chemical nature; (4) fertilizers, their composition and use; (5) the best plants for the school garden and the best methods of culture; (6) plant-breeding, its scope and results; (7) propagation from seeds, cuttings, and bulbs, in window boxes, hotbeds, and out-of-doors; (8) weeds, their identification and control; (9) plant-diseases and insect-enemies, their recognition and control; (10) the best trees for school and home grounds and how they should be planted; (11) window gardening in the school and home; (12) special problems in agriculture peculiar to the locality which need recognition and discussion in the school. The exercises are of such a nature that they make use of the material which may be available in any particular locality, while suggestions will be offered and assistance given in the study of local problems. Mj. MR. FULLER.

4. Nature-Study according to Seasons.—This course aims to have the student consider the dominant seasonal aspects and activities of the year. It is based upon observations, experiments, records, and interpretations of the successive changes which occur in his region during the year and includes such topics as: (1) observation and record study of the weather; (2) changes induced in the landscape and its life by these weather changes; (3) preparation of plants for winter; (4) plant distribution; (5) food plants; (6) preparation of animals for winter; (7) heating, ventilation, winds; (8) frost, freezing, crystals; (9) Spring, awaking of life. The course is planned primarily for teachers who wish to carry on nature-study observations throughout the school year and to construct a course in nature-study based upon their local environment. Mj. MR. I. B. MEYERS.

DRAWING

The courses **Machine Drawing** and **Architectural Drawing** afford opportunity to begin the study of drawing, and to continue it to a point where a knowledge of higher mathematics—e. g., calculus, mechanics, etc.—conditions further progress. They cover the ground usually included in the first two years of study in the best technological schools. While open to anyone they will appeal especially to those who wish thorough training in the fundamentals of the science, whether for immediate practical purposes in the office, shop, or classroom, or as a preparation for advanced technical study. One may begin any major of either of these courses for which he is prepared, though in most cases it will be found advisable, if not necessary, to begin with the first major—**Freehand Drawing**. Admission to any major except **Freehand Drawing** will be conditioned on the approval of the instructor in charge, who will base his decision upon a statement and exhibit of previous work. Courses A and B each represent four years' work in the University High School. Course C is intended for those who are qualified for advanced study. The University reserves the right to retain one drawing from the student's set in each major.

The courses offered are:

A. Machine Drawing B. Architectural Drawing C. Descriptive Geometry

The materials required in any major will be sent, express collect, upon receipt of the amount given, which is the lowest that can be quoted for a good quality. The weight of the case and the price of the textbook will enable the student to determine the exact cost of each major.

Material required in courses A1, B1.—Six sheets of Whatman's cold pressed paper, 2×30 inches; 8 sheets of chalk-talk paper, 14×20 inches; 3 Koh-i-noor pencils, 3H; pencil eraser, No. 211; 1 dozen thumb tacks, steel-stamped, $\frac{3}{8}$ inch diameter; 1 box of French charcoal; 1 bottle of fixatif, two-ounce; 1 tin atomizer; 1 box "Star" chalks, 12 assorted colors; 1 drawing-board, 18×24 inches; and models of different solids.

Material required in courses A 2, 3, 4, 5, 6; B 2, 3, 4, 5, 6; and C 1, 2, 3, 4.—One drawing-board, 18×24 inches; 1 set drawing instruments in folding pocketbook style case, No. 4021; 1 T-square, mahogany, ebony-lined, fixed head, 24 inches; 1 amber triangle, 45°, 8 inches; 1 amber triangle, 30°×60°, 10 inches; 1 triangular boxwood rule, architect's, 12 inches; 1 flat boxwood scale, 6 inches, divided $\frac{1}{16}$ and $\frac{1}{32}$; 1 French amber curve, No. 1; 1 dozen sheets of Whatman's hot pressed paper, 22×30 inches; 6 Koh-i-noor pencils, assorted, 3H and 6H; 1 bottle each of Higgin's carmine, black, and blue ink; 1 dozen thumb tacks, steel-stamped, $\frac{3}{8}$ inches diameter; 1 Faber's pencil-eraser, No. 211; 1 Faber's ink-eraser, No. 2604; 1 Hardtmuth's soft pliable rubber, No. 12; 1 file, 4 inches; 1 pen-holder; 3 ball-pointed pens.

ACADEMY

A. Machine Drawing.—

1. *Freehand Drawing.*—This course gives that thorough training of the eye and hand which is requisite in sketching constructive data and in obtaining measurements. (a) Freehand projection, 4 drawings; (b) model drawing, type-forms, 5 drawings; (c) model drawing, groups, 6 drawings; (d) model drawing, light and shade, 6 drawings; (e) model drawing, color, 5 drawings; (f) model drawing, pen and ink, 4 drawings; (g) home sketch work, 2 drawings in each of the above subjects; in all, 42 drawings. No textbook is required. Cost of materials ready for shipment, \$3.50; weight of package, 15 pounds. Mj. MR. FERSON.

2. *Mechanical Drawing.*—(a) Preparatory work: this will include the use of instruments, laying out, penciling, inking-in, lettering; with practice work to learn accuracy of measurement and of line, 3 drawings. (b) Graphic geometry: this is intended to give the student a mastery of the various geometrical constructions which form the basis of all work in projection, descriptive geometry, and constructive drawing, whether mechanical or architectural; and at the same time to give facility in the use of the instruments 6 drawings. (c) Projection: this will include the projection of points, lines, planes, and solids, 6 drawings; in all, 15 drawings. Textbook: Linus Faunce's *Mechanical Drawing*, \$1.35. Cost of materials ready for shipment, \$1.95 weight of package, 18 pounds. Prerequisite: course A 1 or its equivalent. Mj. MR. FERSON.

3. *Constructive Drawing.*—(a) Intersections, including conic sections, oblique sections, intersections, and developments, 6 drawings. (b) Shadows: the first angle projection of shadows, 3 drawings. (c) Isometric projections with projections of shadow, 3 drawings. (d) Oblique or cabinet projection, 3 drawings; in all, 15 drawings. Textbook and equipment for this course same as for A 2. Prerequisite: course A 2. Mj. MR. FERSON.

4. *Machine Details.*—This course is intended to familiarize the student with the various parts of machines that have come to be recognized as standards, and which are used in the construction of new machines. Standard sections for materials, fastenings, couplings, bearings, engine details, etc., 10 drawings. Textbook: Low and Bevis' *Manual of Machine Drawing and Design*, postpaid, \$2.50. The equipment for A 2 will suffice for this course also. Prerequisite: courses A 2 and 3. Mj. MR. FERSON.

5. *Gear Construction.*—Spur-gears, bevel, spiral, worm, elliptic, involute and cycloid teeth, hubs, arms, rims, etc., 10 drawings. Textbook: George B. Grant's *Teeth of Gears*, postpaid, \$1.10; equipment, same as for A 2. Prerequisite: courses A 2, 3, and 4. Mj. MR. FERSON.

6. *Shop Drawing.*—(a) Machines from freehand sketches and measurement-details and an assembled drawing of some piece of machinery; (b) tracing and blue, printing. Five drawings with their tracings and blue prints will be accepted for this course; in all, 15 sheets. No textbook is required; equipment, same as for A 2. Prerequisite: courses A 2, 3, 4, and 5. Mj. MR. FERSON.

B. Architectural Drawing.—The architectural course gives the student a good working knowledge of the essentials in architecture: history, the orders, the principles of the designing of houses, office work in rendering, perspective, and detailing, together with tracing and blue-printing.

1. *Freehand Drawing.*—Same as A 1. Mj. MR. FERSON.

2. *Mechanical Drawing.*—Same as A 2. Mj. MR. FERSON.

3. *Constructive Drawing.*—Same as A 3. Mj. MR. FERSON.

4. *Architectural Details*.—(a) "The Orders," 10 drawings; (b) details of architectural construction from measurements, 2 drawings; in all, 12 drawings. Textbooks: Hamlin's *Architectural History*, postpaid, \$1.75; and American Vignola, "The Orders." Equipment for this course, same as for A 2. Prerequisite: courses B 1, 2, and 3. Mj. MR. FERSON.

5. *Architectural Design*.—(a) Domestic plans, from copy, 4 drawings; (b) design of some small building, 4 drawings; (c) tracings and blue prints, 4 tracings with their prints, 8 sheets; in all 16 drawings. Textbooks: same as for B 4; equipment, same as for A 2. Prerequisite: courses B 1, 2, 3, and 4. Mj. MR. FERSON.

6. *Pictorial Architecture*.—(a) Architectural perspective, 3 drawings; (b) architectural rendering in pen and ink, 4 drawings; (c) rendering in color and wash, 4 drawings; in all, 11 drawings. Textbooks; same as for B 4; equipment, same as for A 2. (In preparation.) Prerequisite: courses B 1, 2, 3, 4, and 5. Mj. MR. FERSON.

C. *Descriptive Geometry*.—This course is for those who wish to go into the higher mathematics, but have had no training in the graphic side of the subject. It will consist of:

1. *Mechanical Drawing*.—Same as A 2. Mj. MR. FERSON.

2. *Constructive Drawing*.—Same as A 3. Mj. MR. FERSON.

3. *Theoretical Graphics*.—Problems in points, lines, planes, and straight-surfaced solids; 15 drawings. Textbook: Church's *Descriptive Geometry*, postpaid \$2.65; equipment, same as for A 2. Mj. MR. FERSON.

4. *Practical Graphics*.—Curved and warped surfaces, shades and shadows, developments; 15 drawings. Textbook: same as for C 3; equipment, same as for A 2. Mj. MR. FERSON.

WOODWORK

Courses 1, 2, and 3 cover the woodwork done in first-class technical schools in joinery, turning, and pattern-making and, with the addition of course 4, represent the first two years of shop-work done in the University High School. The work is adapted to the needs of students who wish to obtain advanced credit in technical schools, and to those who wish to prepare themselves to teach woodwork. The courses will also be useful to men working in shops who wish to fit themselves for more advanced positions. Course 4 will be of special value to those who wish to make articles of furniture for the home. Credit is given only for work inspected and accepted by the instructor. Hence, those desiring credit must send in their work by prepaid express. Articles sent for inspection will be returned at sender's expense if desired, though the University reserves the right to retain one article from the student's set in each major. The four courses offered are:

1. Joinery

2. Wood-turning

3. Pattern-making

4. Cabinet-making

The necessary tools for each course will be sent, express collect, on receipt of price given. The price is as low as is consistent with good quality. The pupil will probably be able to procure the necessary materials for his work in his own locality, but if not the instructor is prepared to assist him in securing them.

ACADEMY

1. *Joinery*.—Care and use of tools, planing, lining with gauge and knife, sawing to a line, chiseling, bench-hook, halved joint, open mortise and tenon, through mortise and tenon, keyed mortise and tenon, dovetail, box dovetail, keyed splice, doweled joint, bread slicer, and a carpenter's tool-chest. The bench recommended for this course is a regular single manual-training bench. The top is made of 2½ inch strips, glued together to prevent warping. The working top of the bench measures 48×20 inches, and is furnished with one regular and one tail vise. Its weight is 150 pounds. The price is \$7.50, or with drawer \$8.00. It must be sent by freight. While it is not absolutely essential that this bench be purchased, it is extremely desirable, because it is much easier to do good work on a strong, true bench than on a weak, shaky affair. This bench, or one as good, is also required for courses 3 and 4. If the pupil can purchase a suitable bench in his immediate vicinity, he can save freight by so doing. The tools for this course have been carefully selected, and their cost is \$10 per set. Their weight boxed

is about 50 pounds. No textbook is required in this course. The work is sent in the form of drawings and lesson sheets. Prerequisite: course A 2 in Drawing. Mj. Mr. ———.

2. Wood-turning.—Turning on centers, production of the various kinds of surfaces, chuck, faceplate and screw-center work, turning of slender pieces, polishing and finishing in the lathe. As it is thought that many who will wish to take this course will have or will be able to rent lathe and turning tools, prices are not given, but will be furnished on application. No textbook is required. Prerequisites: course 1 in Woodwork and course A 2 in Drawing. Mj. Mr. ———.

3. Pattern-making.—The work begins with the study of a few of the simplest forms of patterns, and advances gradually to the more complex forms. Methods of parting and drawing patterns are discussed, also various ways of making core boxes and setting core prints. Patterns of wood, brass, iron, and plaster are considered. The examples taken up are so chosen as to cover a wide range of work and to bring out many of the difficult points encountered by the pattern-maker. The tools used in courses 1 and 2, with the addition of a few inexpensive hand-screws, will serve for this course. These hand-screws can be obtained at almost any general hardware store for about \$3. No textbook is required. Prerequisites: courses 1 and 2 in Woodwork, and course A 2 in Drawing. Mj. Mr. ———.

4. Cabinet-making.—The pupil makes one or more articles of furniture of the arts-and-crafts or mission style, and various kinds of material and finish are considered. The bench and tools required are the same as those for course 1, with some others in addition, their number and kind depending on the articles made. It is thought that many will take this course merely for the sake of the articles made, but if credit is desired, the work must be sent to the instructor for inspection. Prerequisites: course 1 in Woodwork, and also course 2, if the student desires to introduce turned work into the articles made. Mj. Mr. ———.

MUSIC

NOTE.—No credit is given for any one of the following courses. The tuition fee for each is \$16.

1. Outline History of Music.—A survey course, treating (1) of the natural growth of the elements and forms of music, (a) simple sounds, scales, melodies, harmonies, rhythms, (b) the art forms—the song, sonata, oratorio, opera, and symphony, (c) the development of musical instruments, (d) notation; and (2) of the biographies of individual musicians and the influence and characteristics of certain groups and nations. The course is planned to meet the needs, not only of students of music and professional musicians, but also of any who wish to increase their understanding and enjoyment of musical performance. MR. JONES.

2. Elementary Harmony.—Scales, intervals, chords, four-part chord progressions; major and minor triads, inversions; the dominant seventh. Practical analysis of simple four-part tunes. MR. JONES.

3. The Development of Song.—This course traces the growth of the art song from its crude beginnings in the rhythmical cries of savages. Folk songs—unconscious art; popular songs; the English ballad; the analysis of a modern song—text, melody, rhythm, harmonies, accompaniment. The purpose of a song from the viewpoint of the text-author, the composer, the singer, and the listener. The contributions of nations and individual composers to song literature—Italian arias, German lieder, Schubert, Schumann, Franz, Brahms, Strauss, and others. Modern tendencies. MR. JONES.

4. The Use of Music in Worship.—This course includes the history of church music, and a practical discussion of the musical problems of ministers, choir leaders, and all who have to do with worship-music. The historical matter includes the music of the Hebrews, the Gregorian chant, the compositions of Palestrina and his contemporaries, the Catholic ritual, oratorio, psalmody, and the use of music in the English church. The modern problems considered include the purpose of music in worship; the kinds of music—impressive and expressive; the function of the organ; the kinds, cost, organization, and management of choirs; congregational singing; the minister's part in music. MR. JONES.

LIBRARY SCIENCE

1. Technical Methods of Library Science.—This is an elementary course designed especially for those who are already in library positions, and are unable to leave for resident study. It deals chiefly with cataloguing and classification, with a few general lessons on accessioning, shelf-listing, book-binding, gift work, periodicals, and loan systems. It is felt that no library training can be complete without personal familiarity with the “tools” of the profession and modern methods of work. Hence it is hoped that students taking this course will find it possible later on to supplement the work thus begun, by resident study at some library school. While credit is not given for correspondence courses in any such school, familiarity with library methods will make residence work easier for the student. As preparation two years of college training or its equivalent is required. Practical experience in library work will count much in the applicant’s favor. The course consists of twenty-four lessons. Mj. Miss ROBERTSON.

VII. THE ENGLISH THEOLOGICAL SEMINARY

I. GENERAL INFORMATION

The English Theological Seminary of the University of Chicago is intended to meet the needs of students who have not had the advantages of a college education and is open to all denominations of Christians. The applicant must present a ministerial license, or a certificate of ordination, or a statement from the church of which he is a member, approving of his purpose of devoting himself to the Christian ministry or other Christian service. He must also furnish the University, when requested, information concerning his church relations, etc. He will pay the University matriculation fee, \$5, once, and \$3 for each English Theological Seminary course chosen. The reinstatement fee for each of these courses is \$2.

II. COURSES OF INSTRUCTION

NOTE.—No credit toward any degree is allowed for these courses. They count only toward the English Theological Seminary certificate. A description of any of the following courses will be sent on application.

1B. English Composition and Rhetoric	Mj.
2B. Homiletics	Mj.
3B. Outline of Systematic Theology	Mj.
4B. New Testament Times in Palestine	Mj.

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UNIVERSITY CHICAGO

The University of Chicago

FOUNDED BY JOHN D. ROCKEFELLER

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THE CORRESPONDENCE-STUDY DEPARTMENT

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EARL BIXBY FERSON, Instructor in Drawing in the University High School.
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ARNOLD BENNETT HALL, J.D., Extension Instructor in Political Science.
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CARL HENRY GRABO, PH.B., Associate in English.
ALLAN W. C. MENZIES, PH.D., Research Associate in Chemistry.
GEORGE DAMON FULLER, A.B., Associate in Ecology.
ELIZABETH SPRAGUE, Associate in Home Economics in the School of Education.
LOUISE MALLINCKRODT KUEFFNER, PH.D., Extension Associate in German.
INGA MARIE KATRINE ALLISON, ED.B., Extension Associate in Home Economics.
CHARLOTTE JEAN CIPRIANI, PH.D., Extension Associate in Italian.
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ROWLAND HECTOR MODE, PH.D., Extension Associate in the Semitic Languages and Literatures.
EDWARD JAMES MOORE, A.M., Extension Associate in Physics.
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YOHEI TSUNEKAWA, A.B., Docent in Japanese.
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WILLIAM FRANK BRYAN, A.M., Fellow in English.

III. GENERAL INFORMATION

The General Plan for Extra-Mural Teaching.—All non-resident work of the University of Chicago is conducted through the University Extension Division. The University extends its teaching beyond its classrooms in two ways: (1) By lecture-study courses: (2) by correspondence-study courses. The scope of the Correspondence-Study Department is explained in the following paragraphs:

1. **Teaching by Correspondence.**—Experience has shown that many subjects can be taught successfully by correspondence. *Direction* and *correction* can oftentimes be given as effectively in writing as by word of mouth. Obviously, self-reliance, initiative, perseverance, accuracy, and kindred qualities are peculiarly encouraged and developed by this method of instruction.

2. **Purpose and Constituency.**—Through the Correspondence-Study Department the University endeavors to offer as many as possible of the courses given in the classrooms of its different divisions so that those whose formal schooling has been interrupted may continue their studies. Besides contributing to culture, many of the courses, because of their bearing on problems of everyday life, may be turned to immediate practical account. One may choose any course or courses for which he is prepared and begin at any time. The aim is to offer to anyone anywhere the opportunity of securing helpful and stimulating instruction from specialists.

The work appeals, therefore, to the following classes: (1) students preparing for college or professional schools; (2) college students who are unable to pursue continuous resident study; (3) grammar and high-school teachers who cannot avail themselves of resident instruction; (4) teachers and others who have had a partial college course and wish to work along some special line; (5) instructors in higher institutions who desire assistance in the advanced study of some subject; (6) professional and business men who wish to supplement their training; (7) ministers and Bible students who would fit themselves better to use the Scriptures; (8) parents uncertain how to deal wisely with their children; in short, all who desire a broader knowledge or a more thorough scholarship.

3. **Method of Instruction.**—Each correspondence course is designed to be equivalent to the corresponding residence course, and contains therefore a definite amount of work. A *major* (Mj) calls for an amount of work which a student in residence would be expected to accomplish in twelve weeks, reciting five hours per week. A *minor* (M) calls for one-half as much work as a major. The resident student who does full work completes three majors every three months, but the correspondence student is allowed from twelve to fifteen months, according as he registers late or early in the quarter (or, if extension of time is granted, of from twenty-four to twenty-seven months) for completing whatever number of major or minor courses he applies for (cf. § 6, *d* and *f*). On the other hand he is permitted to finish courses as rapidly as is consistent with good work. Courses are of two kinds, formal and informal.

a) The *formal* course furnishes a systematic and progressive presentation of

the subject in a given number of lessons (cf. § 6, *n*). Each lesson contains: (1) full directions for study, including references to the textbooks by chapter and page; (2) necessary suggestions and assistance; (3) questions to test the student's methods of work as well as his understanding of the ground covered. After preparing for recitation the student writes his answers to the questions and mails them to the instructor, together with any difficulties which may have arisen during his study. This recitation paper is promptly corrected and returned. In like manner every lesson is carefully criticized by the instructor and returned, so that each student receives *personal guidance and instruction* throughout the course.

b) The *informal* course is designed for students who are pursuing studies of an advanced nature. The course is usually arranged between instructor and student to meet the particular needs of the latter. The formal lesson sheet is dispensed with, but the course is carefully outlined by the instructor, and the student is required to present satisfactory evidence that the work is being properly done. This evidence may consist of a number of short papers on special themes, a thesis covering the whole work, or it may partake rather of the nature of ordinary correspondence.

Courses are *formal* when not otherwise indicated.

4. Admission.¹—(*a*) No preliminary examination or proof of previous work is required of applicants for correspondence courses. Before matriculating or registering a student, however, the University does require certain information and reserves the right to reject applicants, or to recommend other courses than those chosen, if the data furnished on the application blank justify such action. If the applicant is rejected, or the substitution recommended is not accepted by the student, all fees are refunded. The application blank will be supplied upon request. *It should, in every case, accompany the fee for a new course.*

b) A correspondence student whose standing in one of the Colleges or Schools of the University has not been definitely determined is ranked as an *unclassified student*.

5. Recognition for Work.—(*a*) A certificate is granted for the satisfactory completion of the recitation work in any major or minor course.

b) Admission credit is given for courses covering college entrance requirements, which are satisfactorily completed and passed by examination.

c) College credit is given for courses of a college grade satisfactorily completed and passed by examination (cf. § 6, *b*, 1).

d) If the student has a record of residence work in the University, credits gained from correspondence courses are immediately transferred to that record; if not, they are held in the Correspondence-Study Department until the student secures such a record.

e) See also Regulations *a*) and *b*).

6. Regulations.—(*a*) The University of Chicago grants no degree for work done wholly in absence. A *minimum* of nine majors (one year's work) of resident

¹ If the student later comes to the University, he must satisfy admission requirements (see *Circular of Information of the Colleges*, pp. 5 ff.).

study at the University of Chicago is required of everyone upon whom any degree, save the Master's (cf. § 6, b, 2), is conferred.

b) Correspondence courses are accepted as meeting the study requirement for the different degrees as follows: (1) The candidate for a Bachelor's degree (A.B., Ph.B., or S.B.) may do eighteen of the required thirty-six majors of college work, by correspondence. (2) The candidate for the Master's degree (A.M., Ph.M., or S.M.) may not offer correspondence work for any of that required for this degree, inasmuch as the maximum resident time and study requirement for this degree (nine months and eight majors) does not exceed the minimum requirement for any degree. (3) The candidate for the Doctor's degree (Ph.D.) should consult the head of the Department in which his work lies before choosing correspondence courses *for credit*. Very few non-resident students command the necessary library or laboratory facilities for graduate study.

NOTE.—The University of Chicago's Bachelor degree, or its full equivalent, is prerequisite for admission to candidacy for a Master's or Doctor's degree. If a student presents a degree inferior by less than nine (9) majors he can make it equal to the University degree by means of correspondence courses and thus be free to devote his entire time in residence to graduate work (cf. § 6, a).

c) A student may begin a correspondence course at any time in the year.

d) A student will be expected to complete any course or courses *within one year from the end* (i. e., March 23, June 23, September 23, December 23) of the quarter in which he registers.

e) A student who, for any reason, does not report either by lesson or by letter within a period of ninety days, may thereby forfeit his right to further instruction in the course.

f) Extension of time will be granted: (1) *for a period equal to the length of time which a correspondence student spends in resident study at the University of Chicago*, providing due notice is given the secretary and the instructor both at the beginning and the end of such resident study; (2) *for one full year from the date of expiration of the course*, if, on account of sickness or other serious disability, the student has been unable to complete the course or courses within the prescribed time (cf. § 6, d), providing (a) he secures the consent of the secretary and his instructor, and (b) pays \$4 for each Major course or \$2 for each Minor course he wishes to continue. Private arrangement for extension of time between the student and his instructor cannot be recognized by the Department.

g) In order to secure credit for a correspondence course, the student must pass an examination on it at such time as is most convenient to himself and his instructor, either at the University or, if elsewhere, under supervision which has been approved by the University.

h) During an instructor's vacation a substitute will be provided, or the time for completing the course will be extended.

i) The fee for matriculation in the University (\$5) is required once, at the time of first registration, of each one who has not matriculated in the institution either as a residence or a correspondence student. The fee is general for the whole University.

j) No fee is refunded on account of a student's inability to enter upon or continue a course.

k) The matriculation fee will not be refunded to a student whose application has been accepted (cf. § 4, *a*).

l) The student must forward with each lesson, postage (or, preferably, a stamped, self-directed envelope) for return of same

m) A student will be required to pay for but one major of a double major (DMj) course (e. g., Plane Geometry) at a time, unless he applies for both majors.

n) Ordinarily, a major consists of forty, and a minor of twenty lessons; but there may be variations from this number in order to accommodate the work to the requirements of a particular course. Each course represents a definite amount of work (cf. § 3), the number of lessons into which it is divided being incidental.

o) A course announced as a major may not be taken a minor at a time.

p) Each correspondence course is equivalent to the corresponding residence course, and commands credit unless definite statement is made to the contrary (cf. § 5).

q) All informal courses are majors unless otherwise indicated.

7. Expenses.—(*a*) All fees are payable in advance.

b) The matriculation fee is \$5 (cf. § 6, *i*); the tuition fee for *each* minor course is \$8; for one major course, \$16. If a student registers *at the same time* for two major courses the tuition fee is \$30; for three major courses, \$40. No reduction is made for minor courses taken simultaneously. A student registering for English Theological Seminary courses will pay the matriculation fee, \$5, and \$3 for each course taken. The tuition fee includes payment for the instruction sheets received. Textbooks which cannot be borrowed (cf. § 10) must be purchased by the student.

c) The student is required to inclose postage for the return of the lesson-papers (cf. § 6, *l*).

d) Money should be sent in the form of postal or express order or New York or Chicago draft, made payable to the University of Chicago. The Chicago clearing-house charges exchange on all other forms of remittance—15 cents on sums up to \$50.

8. Method of Registration (recapitulated).—(*a*) File with the secretary of the Correspondence-Study Department a formal application for *each* course desired. The required application blank will be furnished upon request (cf. § 4, *a*).

b) *Forward with the formal application the necessary fees:* (1) \$5 for matriculation, if not matriculated in the University (cf. § 6, *i*); (2) \$8 for each minor course, or \$16, \$30, or \$40, according as one, two, or three major courses are applied for; (3) an additional fee for certain courses in Physics, Chemistry, Zoölogy, Botany, and Bacteriology.

9. Scholarships.¹

CLASS A.—Three scholarships, each yielding tuition in residence for one quarter (\$40), are awarded annually on April 1 to the three students who have

¹ Scholarships are good for any quarter. Two minors are equivalent to one major. English Theological Seminary courses are excluded from competition.

begun, satisfactorily completed, and passed by examination the *greatest number* of major correspondence courses, but at least four, during the preceding twelve months. If two or more persons finish the same number of majors, the Scholarships will be awarded to those whose average grade for the courses in question is highest.

CLASS B.—A scholarship yielding tuition in residence for one quarter (\$40) is awarded to a student for *every four* different major correspondence courses which he has begun since April 1, 1904, and satisfactorily completed and passed by examination.

10. **Books, etc.**—Textbooks, maps, etc., which are recommended for use in the various courses may be obtained through the University of Chicago Press, Chicago. Estimates and prices will be furnished on application. *In exceptional cases* some of these books may be borrowed from the University Library. Applications for loans should be addressed to the Librarian of the University of Chicago.

11. **Lecture-Study.**—Attention is called to the special circular relative to lecture-study work, which may be obtained on application.

IV. TOTAL REQUIREMENTS FOR THE BACCALAUREATE DEGREES

(Expressed in Majors)

	A.B.	Ph.B. (Lit.)	S.B.	Ph.B. (C. & A.)	A.B. in Ed. Ph.B. in Ed. S.B. in Ed.
Philosophy, Psychology . .	2	2	1	..	2
History	4	4	3	7	4
Political Economy, Political Science, History, Sociology . . . . .	..	3 (or 4)	2	4	.
Greek	9	..	..	..	..
Latin	11	..	..	..	..
Latin, French, or German	..	14 (or 13)	6	13	6
French or German	4	..	4	..	4
English	8	8	8	8	8
In a single department . .	.	6	..	..	6
Mathematics	6	5	6	5	5
Science	2	3	8	3	2
Mathematics or Science . .	2	2	9	2	2
Public Speaking	1	1	1	1	1
Electives	17	18	18	5	..
Professional Group . . . .	..	..	..	18	..
Elective or Professional . . Group . . . . .	..	..	..	..	27
	66	66	66	66	66

The total of 66 majors represents four years (15 units, approximately 30 Mjs.) of high-school work and four years (36 Mjs.) of college work. Any amount of the high-school work and as much as one-half (18) of the 36 Mjs. of college work may be done by correspondence.

V. THREE PROGRAMS OF HIGH-SCHOOL WORK

In the 15 units¹ of high-school work required for full admission to the University of Chicago, every student must offer at least—

- 3 units of English;
- 3 units of language other than English (Latin, French, German, Spanish);
- 2½ units of Mathematics.

The other 6½ units are more or less optional but if the student wishes to prepare for college work leading to—

- 1) the A.B. degree he should present instead of 3 units of language other than English, 4 units of Latin and 3 units of Greek, leaving only 2½ units optional.
- 2) the Ph.B. degree, he should present instead of the 3 units of language other than English, 5 units of Latin, French, German, or Spanish and 2 units of History, leaving only 2½ units optional.
- 3) the S.B. degree, he should present 3 units of Mathematics instead of 2½, 4 units of Latin, French, German, or Spanish, instead of 3, and 2 units of Science, leaving 3 units optional.

CORRESPONDENCE-STUDY COURSES WHICH OFFER HIGH-SCHOOL WORK²

	UNITS
History—"Outline History of Antiquity to 337 A. D." (A and B)	I
Greek—"Elementary Greek" (A and B)	I
"Xenophon: <i>Anabasis</i> " (A and B)	I
"Homer: <i>Iliad</i> " (A and B)	I
Latin—"Elementary Latin" (A and B)	I
"Caesar: <i>De Bello Gallico</i> " (A, B, and C)	1
(Provisional credit only is given for the two Majors of "Elementary Latin." This is made permanent when the two and one-half Majors of "Caesar: <i>De Bello Gallico</i> " are passed)	
"Vergil: <i>Aeneid</i> " (A and B)	I
"Cicero: <i>Orationes</i> " (A and B)	I
French—"Elementary French" (A and B)	I
"Intermediate French" and "Advanced French"	I
Spanish—"Elementary Spanish" and "Modern Spanish Novels and Dramas"	I
German—"Elementary German" (A and B)	I
"Intermediate German" and "Intermediate Prose Composition"	I
"German Idioms and Synonyms" and "Modern German Dramas"	I
English—The 3 required entrance units are not given, but one who passes "Preparatory English Composition," and "Preparatory English Literature" should have no difficulty in passing the regular entrance examination in English which yields 3 units.	
Mathematics—"Elementary Algebra" (A, B, and C)	I½
"Plane Geometry" (DMj)	I
"Solid Geometry"	½
Physics—"Elementary Physics" (A and B)	I
Biology—"General Zoölogy"	½
Physiology—"Introductory Physiology—A"	½
Drawing—"Freehand Drawing"	½ or I
"Mechanical Drawing"	I

¹ A unit represents 150 hours of recitation. It is equivalent, as a rule, to two majors.

² These courses, when completed and passed, will be accepted in lieu of entrance requirements. Many of them will yield college credit if not offered for admission.

VI. COURSES OF INSTRUCTION

I. PHILOSOPHY

1. Ethics.—An introductory course intended (1) to familiarize the student with the main aspects of ethical history and theory, and through this (2) to reach a method of estimating and controlling conduct. The main divisions of the course are: (a) the general nature of moral conduct; (b) a study of the evolution of the moral problem from primitive life to the present; (c) a comparative study of current ethical theories; (d) application of the foregoing to present problems of social and individual life. The course will be based on the text of Dewey and Tufts's *Ethics*, with collateral study of Mill's *Utilitarianism* and Kant's *Metaphysics of Ethics*. Mj. PROFESSOR MOORE AND DR. ASHLEY.

2. Logic.—This course will cover practically the same ground as course 3 in residence. The aim will be (1) to familiarize the student with logical processes; (2) to afford training in careful and critical habits of thought; (3) to provide a substantial foundation for subsequent work in philosophy. The topics which will be considered are those usually included in a general survey of logic, such as the concept; the various forms of judgment; deductive reasoning, including syllogisms and fallacies; inductive reasoning, including methods of inductive inquiry; the hypothesis; inductive fallacies, etc. Stress will be laid on the functional aspect of thought-processes, and attention will be called to certain underlying psychological principles. While "Elementary Psychology" is a helpful preliminary, the course may be taken with profit by those who are prepared for thorough study. The work will consist in the study of one or two standard textbooks, which will be supplemented as occasion requires by exercises and discussions. Mj. DR. ASHLEY.

3. Greek and Mediaeval Philosophy.—This course is designed (1) as a survey of the history of thought, considered in its relations to the sciences, to literature, and to social and political conditions, and (2) as an introduction to philosophy through a more careful study of some of the most important systems. Special attention will be given to the study of the more important dialogues of Plato and to Aristotle's *Ethics*. Mj. PROFESSOR TUFTS AND MISS TAFT.

4. Modern Philosophy.—Descartes to Hume, with special study given to Descartes' *Meditations*, Locke's *Essay*, Berkeley's *Principles of Human Knowledge*, and a portion of Hume's *Treatise on Human Nature*. Mj. PROFESSOR TUFTS AND MISS TAFT.

5. Introduction to Kant.—Watson's *Selections* and Mahaffy and Bernard's editions of *The Critique of Pure Reason*, and *Prolegomena*, will be made the basis of the work. The course will be opened with a brief study of the thought of Leibnitz, for which Dewey's *Leibnitz* will be used. This will be followed by a brief outline of Kant's early development, and a detailed study of the more important portions of *The Critique* as found in Watson's *Selections*. Prerequisite: course 4, or its equivalent. Mj. PROFESSOR TUFTS AND MISS TAFT.

6. Movements of Thought in the Nineteenth Century.—The course continues in less technical manner the history of modern philosophy: romanticism as represented by Rousseau and certain poets; idealism in German philosophy and in Carlyle; utilitarianism; positivism; transcendentalism as seen in Emerson's view of nature and man; the doctrine of evolution, particularly in its relation to human society and the problems of morality as considered by Huxley; the relation of the scientific to the philosophic point of view as defined by Royce. Those who register for the course should have access to a good library or be prepared to purchase a number of books. Prerequisite: two of the three courses, 3-5. Mj. PROFESSOR TUFTS AND MISS TAFT.

IIA. PSYCHOLOGY

1. Elementary Psychology.—This course takes up the general study of mental processes. It aims to train the student to observe the processes of his own experience and those of others, and to appreciate critically whatever he may read along psychological lines. It is introductory to all work in philosophy and pedagogy, and is

an important part of equipment for historical and literary interpretation. Mj. ASSISTANT PROFESSOR CARR.

2. Advanced Psychology.—This course presupposes such a familiarity with the subject-matter of psychology as may be gained from course 1 or from intimate acquaintance with Angell's *Psychology*, James's *Briefer Course in Psychology*, Royce's *Outlines of Psychology*, Titchener's *An Outline and Primer of Psychology*, or Wundt's *Outlines of Psychology*. It may then properly be described as a continuation of the study or an *advance* upon an elementary presentation of the science with a view to further grounding in methods, and a reconsideration of some of its salient problems in the light of recent specialized studies. Mj. DR. MACMILLAN.

3. Psychology of Religion.—The following topics are considered: (1) history of the psychology of religion; (2) the psychological point of view; (3) primitive religion; (4) custom and taboo; (5) magic; (6) spirits; (7) sacrifice; (8) prayer; (9) mythology; (10) development of religion; (11) religion in childhood; (12) adolescence; (13) normal growth; (14) conversion; (15) religion as involving the entire psychical life; (16) ideation; (17) feeling; (18) genius and inspiration; (19) non-religious persons; (20) sects; (21) the religious consciousness in democracy and science. Prerequisite: course 1 or its equivalent. Mj. ASSISTANT PROFESSOR AMES.

IB. EDUCATION

1. Principles of Education.—This course is designed to introduce students to the study of Education from a historical and scientific point of view. The readings are intended to arouse in the minds of the students some inquiries with regard to the possibilities of organizing the course of study in such a way that it shall be based upon psychological and sociological principles rather than mere tradition. Mj. PROFESSOR JUDD AND DR. FREEMAN.

2. Educational Psychology.—A study of the fundamental psychological processes, with especial emphasis upon those which have direct relation to educational problems. The application of mental laws both to general educational procedure and to the conduct of the special disciplines is made throughout. For example, the general problem of interest, and the particular school subjects, reading, writing, and number are treated from the psychological point of view. Attention is also given to the mental development of the child. Mj. DR. FREEMAN AND DR. ASHLEY.

3. Principles of Method.—The course includes (1) a study of concrete questions of method as exemplifying the psychological principles of instinctive behavior, habit formation, apperception, interest, practice, etc.; (2) a more detailed study of the conduct of the recitation for different kinds of lessons, such as textbook and development lessons; (3) methods in some of the traditional school subjects, such as spelling and writing, in the light of scientific investigation of them; (4) questions of class management, discipline, larger aspects of the organization of instruction, testing results. Mj. ASSOCIATE PROFESSOR PARKER.

4. School Administration and Supervision.—This course is designed for superintendents, principals, supervisors, and teachers who wish to prepare themselves for supervision and administration. It deals with the following topics: (1) organization of state school systems; (2) distribution of educational functions among state, county, town, and district officials; (3) municipal school systems; (4) the school board; (5) superintendent and supervisory staff; (6) the budget and its distribution; (7) school sites, buildings, heating, ventilation, lighting, sanitation, furniture, and equipment; (8) relations of administrative and supervisory officials to school boards, teachers, pupils, parents, and the community in general; (9) grading, testing, and promotion of pupils; (10) textbooks and schoolroom appliances; (11) courses of study from the superintendent's point of view; (12) preparation, certification, appointment, tenure of service, and promotion of teachers; (13) supervision of teaching and the training of teachers while in service; (14) compulsory education and child-labor legislation; (15) the education of exceptional children, delinquents, and defectives; (16) organization of vocational education, evening schools, and continuation classes;

* Registrations accepted after October 1.

(17) physical education, medical inspection, playgrounds, and play centers; (18) educational statistics and reports; (19) new administrative demands being created by our present rapid expansion of educational functions. The course is not merely a descriptive one; it deals as far as possible with principles of organization and control. It aims at a wide perspective view of organization for those who must direct the many serious readjustments that are now being made in our school systems with ever-increasing rapidity. Mj. DR. BOBBITT.

5. **The History of Education.**—This course covers in outline the history of education from savagery to the present time. The subject is presented in such a way as to enable the student (1) to gain clear conceptions of the relations of the ideals of an age to general industrial and social conditions; (2) to discover the successive steps in the development of educational theory and practice; and (3) to get a rich background for the evaluation of the various factors in the problems which command attention today. Emphasis is placed upon great movements rather than upon individuals. Eminent philosophers and educators are considered, but they are treated with reference to the movement to which they have contributed. Mj. DR. DOPP.

6. **A Comparative Study of the School Systems of Germany, England, and the United States.**—The course will trace the historical development of the existing systems of elementary and secondary education, with especial emphasis upon the characteristic ideals that have differentiated them, and upon present tendencies. Mj. PROFESSOR BUTLER.

7. **State and Municipal School Systems of the United States.**—A study will be made of certain state and city school systems, the attempt being to select a few examples of what may be regarded as the best types of organization of public education, and a few of the opposite character. The object in study will be, through acquaintance with what has been tried and proved, to arrive at as clear a judgment as may be as to what is fundamentally sound in organization and administration, and to note what modifications are required by local conditions. Mj. PROFESSOR BUTLER.

8. **Problems in Secondary Education.**—The course will discuss education as training for social efficiency; the intellectual, social, physical, and moral elements in education; adolescence; the high-school curriculum; handicrafts in secondary education; electives; the extension of the high-school course by the addition of two years; the school and the community; "the many-sided interest;" on sending boys and girls to college. The student will be expected to make a study of schools in his neighborhood and to make reports upon these schools, in relation to the general topics studied. Mj. PROFESSOR BUTLER.

9. **Elementary School Methods.**—History, nature-study, and mathematics will be considered in this course with reference (1) to the principles involved in selecting the subject-matter which is most valuable for primary, intermediate, and grammar grades; and (2) to methods of teaching which provide an opportunity for the full use of both body and mind. Typical modes of activity, such as dramatic play, modeling in sand and clay, drawing, painting, excursions, field-trips, experimental work, illustrative and real constructive work, and language, will be considered as means of providing first-hand experience which the child needs in order to understand the subject-matter which is presented in the form of symbols. Mj. DR. DOPP.

10. **Social Occupations in Elementary Education.**—This course is designed to meet the needs of those supervisors, principals, and teachers who are attempting to make room for practical activity as a regular feature of elementary education. It aims (1) to afford an insight into the principles of selection by means of which the educational value of the various occupations may be tested; (2) to present the most fundamental features in the development of social occupations among Aryan peoples; (3) to show the relation of the child's psychical attitudes to the serious activities of the race; (4) to indicate what modifications of the serious occupations of life that are introduced into the school are demanded by a recognition of differences due to (a) natural environment, (b) social needs, and (c) psychical attitudes; (5) to make a practical application of the results of this course to the work in primary, intermediate, and grammar-school grades; (6) to help the teacher gain information regarding the literature of the subject and the nature of the materials and apparatus required. Mj. DR. DOPP.

11. Primitive Arts as Educational Means.—This course treats of such typical arts as the dance and pantomime, the festival, music, poetry, the graphic and the plastic arts with reference to (1) their genesis, growth, and differentiation; (2) their practical, intellectual, social, and aesthetic values; and (3) their significance in elementary education. Mj. DR. DOPP.

12. General Course in Child-Study.—This course aims to familiarize students with the known facts and established principles regarding child life. It reviews the principal problems investigated, the accepted present-day methods of collecting, standardizing, and presenting data, and the most important results of recent and contemporaneous work in their various bearings. Mj. DR. MACMILLAN.

13. An Introduction to the Theory and Practice of the Kindergarten.—The aim of the course is: (1) to make a careful study of the best material, songs, games, and stories for children of kindergarten age; (2) to compare those we have today with those selected by Froebel, thus illustrating his anticipation of many phases of the child-study movement; (3) to find the right place and relation of his ideals to the later principles and methods of genetic psychology. Mj. MRS. PUTNAM.

14. Froebel's Educational Ideals.—This course aims to trace the evolution of educational ideas that were organized into a working system by Froebel, to examine the theoretic side of that system through a study of the *Education of Man*, the *Pedagogics of the Kindergarten*, and *Mother Play Book*, and to study the relation of these theories to present educational thought. Mj. MRS. NEWELL.

15. The Training of Children (for Mothers).—The special aim of the course will be to bring to the mother or teacher such practical knowledge of the fundamental laws of the growth and development of children as will be applicable in the home, beginning in the nursery and following through the periods of childhood and adolescence. It will treat of the problems of play, interest, habit, etc., and will aim to show how Froebel, the originator of the kindergarten, would make the child the chief agent in his own development, and at the same time offer a basis for an intelligent and willing obedience to law. The standards of, and reasons for, present educational methods will be discussed, that parents may judge discriminatingly of the school work which is being done by and for their children, and determine whether it is really making for the best all-sided growth of the child. Mj. MRS. PUTNAM.

II. POLITICAL ECONOMY

1. Principles of Political Economy.—

A. This course endeavors to familiarize the student with the main characteristics of our present industrial system. This is done by an examination of its development and by an analysis of its features. A careful study is made of the economic laws governing the production, consumption, exchange, and distribution of wealth. Mj.

B. In this course the concrete economic problems of the day are discussed in the light of the general principles established in course A. Among the subjects treated are the following: Money and banking; protective tariff; monopolies and trusts; trade-unionism and labor legislation; socialism; government control of railroads; and taxation. Mj. MR. PATTERSON.

NOTE.—A and B are equivalent to courses 1 and 2 in residence and are required of all candidates for a degree in the College of Commerce and Administration, as well as for advanced work in Economics. Standard textbooks are used as a basis of study.

2. Economic History of the United States.—A general survey of the subject aiming to acquaint the student with the economic problems and forces as they developed and shaped the course of American history—a phase frequently neglected, but of fundamental importance for a proper understanding of the history of the American people. Among the main topics treated are: (1) colonial agriculture, industry, and commerce; (2) economic aspects of the Revolution; (3) the opening up and settlement of the West; (4) the public lands; (5) internal improvements; (6) railways and waterways; (7) slavery; (8) immigration; (9) the merchant marine; (10) foreign commerce; (11) the development of agriculture; (12) the rise of manufactures; (13) the growth of trusts and trade-unions. Mj. ASSISTANT PROFESSOR WRIGHT.

3. Money.—The subjects considered in this course are: (1) the nature and function of money; (2) metallic money; (3) the theory of prices; (4) the nature and effect of credit; (5) paper currency and credit instruments; (6) monetary problems—bi-metallism and the gold standard, greenbacks, and national bank notes, the elastic currency question, etc. Throughout the course emphasis will be placed on the practical side of monetary science. This course is intended for high-school teachers of economics, college students, bankers, business men, and all who wish to inform themselves on an ever-present question of basic importance in the economic world. Mj. PROFESSOR LAUGHLIN AND MR. PATTERSON.

4. Theory and History of Banking.—This course is the equivalent of course 31 in residence. The purpose will be to present the main features and underlying principles of our present banking system and to study the changes in that system as proposed by the advocates of asset currency, a central bank, government guaranty of deposits, and postal savings banks. A study will be made of the functions of a bank and of the principles governing note issue, deposit currency, loans and discounts, reserves, clearing-houses, the relation of banks to the government, branch banking, exchange, and other related subjects. Much of the above study will be made inductively through a careful survey of the history and present status of banking, first, in England, France, Germany, Scotland, Canada, and Mexico; and second, in the United States, including the First and Second Banks of the United States, state banks, and the national banking system. Mj. PROFESSOR LAUGHLIN AND MR. PATTERSON.

5. Trade-Unionism and Labor Legislation.—A historical and comparative study of trade-unionism and labor legislation in the United States and foreign countries. Among the topics treated in this course are the following: causes of the formation of trade-unions; nature of trade-union organization; relations of trade-unions with employers—collective bargaining, strikes, boycotts, lockouts, arbitration, conciliation, etc.; trade-union policies—minimum wage, normal day, apprenticeship system, etc.; legal status of trade-unions; factory legislation; employers' liability; workingmen's insurance. Mj. MR. PATTERSON.

6. Railway Conditions.—For those desiring a general survey of the whole field of railway practice, for young railroaders of restricted experience, whether in track, motive-power, transportation, traffic, or accounting departments, and for those desiring to enter the service this course is admirably adapted. The lesson papers treat in order: (1) general organization; (2) freight traffic and operation; (3) passenger traffic and operation; (4) signaling and train service; (5) track, locomotive, and car equipment; (6) auditing; (7) economic and legal relations. No one of these subjects is treated exhaustively, but the diligent student is assured of a solidly useful understanding of modern practice, which will be a decided help to him in securing advancement. 1½Mjs. PROFESSOR DEWSNUP.

7. Modern Socialism.—In this course a careful study is made of modern socialist theories, especially those of Karl Marx. In addition to the theoretical work a study is made of the growth and development of the Socialist Party in Germany, France, England, Austria, Italy, and other European countries as well as in the United States. Among the topics treated in this part of the course are the causes of the growth of socialism in various countries; the relation of the socialists to the trade unionists; the platforms and programs of the socialist parties; and the reforms already accomplished by the socialists in the countries where they have attained considerable power. Mj. MR. PATTERSON.

ACCOUNTING

8. Bookkeeping.—This course is a full treatment of the principles of bookkeeping. Its purpose is to acquaint the student with the theory and nature of accounts. The subjects treated will be (1) forms of accounts, (2) books used in accounting, (3) mode of handling commercial papers, (4) the recording of transactions, and (5) double-entry methods in retail business. The principles presented will be practically illustrated by a series of transactions which the student will be required to enter in a set of forms which accompany the textbook required in the course. Prerequisite: a working knowledge of arithmetic. [This course does not command credit.] Mj. MR. ARNETT AND MR. KEEN.

9. Partnership and Wholesale Accounting.—This course follows course 8, and is designed for students who have completed that course, or who are familiar with the principles of bookkeeping which are therein enunciated. Partnership accounts are introduced and explained; profit or loss is carried to the partners' accounts, and the books closed. The accounts pertaining to a wholesale business are then taken up, and in addition to the books previously studied, special attention is given to the invoice book, the sales book, and sales ledger, and bills receivable and bills payable books. A brief consideration of costs is given, and a comparison is made of the sales and costs of the several departments in the business. As in course 8, the student will be required to do practical work in recording transactions and handling the papers pertaining thereto. Mj. MR. ARNETT AND MR. KEEN.

10. Corporation Accounting.—In this course will be studied the formation of corporations; the conversion of a partnership into a corporation and the treatment of good-will; the special accounts and books used in corporation accounting; the manner of issuing, transferring, and canceling stock; the making of forms of balance sheets, and a study of the items composing the same; the income accounts; the declaring and payment of dividends; reserve fund; depreciation, surplus, and the closing of the books for the year. The student will be required to do practical work illustrating the above principles; and in connection with the references given to prepare papers on the special topics. Prerequisite: course 8, or its equivalent. Mj. MR. ARNETT AND MR. KEEN.

11. Bank Accounting.—This course makes a study of the books employed in banks for original and subsequent entry. Full instruction is given for opening and closing such books and all processes are amply illustrated. The transactions to be handled comprise the actual business of a bank for a period of six months. After these transactions have been correctly entered, the books will be closed, a financial statement rendered, and a thorough review given upon the principles covered in the course. Prerequisite: course 8 or its equivalent. Mj. MR. ARNETT AND MR. KEEN.

12. Auditing.¹—This course is designed to cover the subject of auditing and includes a consideration of (1) the duties of auditors; (2) the method of preparing for an audit; (3) the responsibilities which must be assumed by the auditor; (4) the various books to be examined and the method of examination; (5) a differentiation of charges to capital and to revenue account. It will also take up the balance sheet of various corporations and the method of treatment in proving up the items shown therein. Special attention will be given to reserves, depreciation, amount available for dividends, and the valuation of the assets. Mj. MR. ARNETT.

III. POLITICAL SCIENCE

1. Civil Government in the United States.—This course is an analysis of the structure and working of government in the United States, with some examination of the historical development of existing forms. Mj. MR. BRAMHALL.

2. Political Parties.¹—In this course the organization and methods of action of political parties in the United States are considered. The various types of primaries, the legal regulation of primaries, the organization and procedure of conventions, the conduct of the campaign, the organization of party machinery, the workings of the organization, the function of parties, are the principal topics discussed. Mj. ASSOCIATE PROFESSOR MERRIAM.

3. Comparative Politics.—

A. Comparative National Government.¹—This course is a comparative study of the systems of government in the leading nations of the world. Particular attention will be given to Germany, France, Great Britain, and the United States, with incidental reference to other countries presenting features of especial importance. The structure of the governments, the constitutional functions of the various departments, and the actual workings of the systems will be examined. Mj.

B. Municipal Government.¹—This course is a comparative study of the modern municipality, American and European, in its legal, constitutional, and administrative

¹ Not given during 1910-11

aspects. Special consideration will be given to the questions of municipal home rule, municipal ownership, and municipal politics in leading cities of Germany, France, England, and the United States. Prerequisite: course 1 or its equivalent. Mj. ASSOCIATE PROFESSOR MERRIAM.

4. Elements of Business Law.—This course deals with the following branches of private law: (1) contracts; (2) sales; (3) bills and notes; (4) agency; (5) partnership; (6) private corporations; (7) bailments; (8) guaranty and suretyship. These are the subjects most closely connected with the ordinary transactions of business. The general doctrines and underlying principles of these branches are discussed and analyzed and their application illustrated by actual cases. To indicate the scope of the work the following topics will receive attention in dealing with (6) *private corporations*: (a) formation of a corporation; (b) capitalization; (c) common and preferred stock; (d) bonds; (e) ownership and transfer of shares; (f) liability of shareholders; (g) management of corporations; (h) corporate meetings; (i) the powers and duties of officers; (j) the legal powers of the corporation; (k) dividends; (l) dissolution and liquidation of corporations. The purpose of this course is twofold: (1) to give to the man of business a knowledge of the general character and extent of his legal rights and duties; (2) to give to the general student an introduction to the study of the nature and doctrines of American private law, so far as they are illustrated in the subjects treated. Mj. MR. HALL.

5. Elements of International Law.—A study of the rules observed by civilized nations in their relations with each other. The course includes a general consideration of the history and development of international law and a more detailed study of the subject in its three fundamental divisions of peace, war, and neutrality. Some of the topics treated are the nature, sources, and divisions of international law; the intervention of one nation in the affairs of another; the rights and duties of nations in connection with property; the extent and nature of a nation's jurisdiction over its territory, subjects, and public and private vessels; the rights and duties of diplomacy; modes of warfare; recognition of belligerency; effect of war on treaties; rules of war on land and sea; rights and duties of neutral states; blockade; contraband of war; etc. The course is not strictly technical in character, and should prove of value to those desiring a better understanding of current international affairs, as well as to lawyers and teachers of history and political science. The work will be based on a standard text, supplemented by a book of cases on international law. Mj. MR. HALL.

6. Constitutional Law of the United States.—A study of the principles of constitutional law as they have been developed in relation to the federal constitution and to some of the more important provisions of the state constitutions of the United States. The general topics discussed are: (1) the nature of the federal constitution and its amendments; (2) relation of the states to the federal government; (3) departments of government; (4) powers of congress with regard to taxation, the regulation of commerce, naturalization, etc.; (5) powers of the executive; (6) the judicial department; (7) the system of checks and balances; (8) the government of territories; (9) constitutional rules of state comity, full faith and credit clause, privileges and immunities of citizens, and extradition; (10) the guaranty of a republican form of government to the states; (11) the amendments to the constitution; (12) civil rights and their guaranties; (13) political privileges; (14) protection to persons accused of crime; (15) protection to contracts and property; (16) eminent domain. This course is based upon the study of actual cases which, wherever practicable, have been so selected and arranged as to show not only the law as expounded by the courts today but also its historical development. This is supplemented with a text which gives an exposition of the general rules derived inductively from a study of the cases. As far as possible technical terms are avoided, so that the course will be of equal value to the general student, the political scientist, and the lawyer. Mj. MR. HALL.

NOTE.—Related courses will be found under Departmental Nos. II, IV, and VI.

IV. HISTORY

ACADEMY

1. Outline History of Antiquity to 337 A. D.—The ground of ancient history with which students entering college are expected to be familiar, is covered. A and B

together satisfy the entrance requirement in history. The suggestions for study are made very definite as helps to beginning students and as an outline of work for high-school teachers.

A. *Oriental and Greek History to 146 B. C.*—A general narrative and descriptive history of Greece to the Roman conquest, with a brief introductory sketch of the oriental nations that especially influenced Greek civilization. Mj.

B. *Roman History to 337 A. D.*—A general view of Roman history from the early Republic to the establishment of the later Empire in the fourth century, paying special attention to the government and institutions of the latter as a basis for an intelligent study of the mediaeval period. Mj. MISS KNOX.

COLLEGE

2. *History of Antiquity to the Fall of the Persian Empire.*—In this course the history of the nations of the ancient East—Babylonia, Egypt, Assyria, Syria, Israel, etc.—is studied in its development from the beginnings of organized political life to the fall of the world-empire of Persia. A large amount of reading is expected of students. Mj. MISS KNOX.

3. *History of Greece to the Death of Alexander.*—This course presupposes a general knowledge of the external facts of Greek history (course 1A), and undertakes to conduct the student into an investigation of the underlying principles and forces which condition the outward events. It is intended for those who wish to go thoroughly into the subject, and are willing to give their time and thought to it. Mj. MISS KNOX.

4. *History of England to the Accession of the Tudors.*—Early Britain, its Romanization, the settlements of the invading German tribes, the struggle for supremacy, the union of England under Wessex, the Norman Conquest, the struggle of the people for constitutional rights, civil and foreign wars, and the beginning of the Renaissance in England, will be studied. Mj. MISS KNOX.

5. *England from Henry VII to Edward VII (1485-1900).*—Special emphasis will be placed upon the history of the Reformation, the struggle between king and parliament, English society and civilization, colonial expansion and the growth of democracy in the nineteenth century. Mj. MISS KNOX.

6. *Outline History of Mediaeval Europe (350-1500).*—The invasion and settlement of the barbarians, the revival of the empire, the growth of the papacy, and the struggle between those two, Mohammed and his religion, the Crusades, the rise of nationalities, mediaeval institutions, and the Renaissance, will be studied. The needs of the teacher as well as those of the general student are met in this course. Mj. MISS KNOX.

7. *Outline History of Modern Europe (1517-1900).*—The principal topics treated are: the Reformation; the religious wars; the struggle for constitutional liberty in England; the ascendancy of France under Louis XIII and Louis XIV; the rise of Prussia; England's colonial supremacy; the era of the French Revolution and Napoleon; the period of reaction and the Revolutions of 1830 and 1848; the unification of Italy and of Germany; England and Russia in the nineteenth century; the Near and Far Eastern Questions; and a concluding summary of the progress of civilization in the nineteenth century. While the primary object is to give the student a knowledge of the political history of the period, due attention is paid to the economic, social, and religious movements that are essential to this object. This course will be helpful to teachers as well as to students of history. Mj. MISS KNOX.

8. *Europe from 1250-1500 A.D.*¹—A survey study of the period of the Renaissance in Europe. Mj. MISS KNOX.

9. *Europe from 1517 to 1648.*—This course is a study of the causes, events, and results of the Reformation in Europe. Much attention will be given to the political, social, and economic phases of the movement, the inseparable religious questions being discussed only so far as is necessary to an understanding of the period. Mj. MISS KNOX.

¹ Not given during 1910-11.

10. The French Revolution and the Era of Napoleon.—The ground will be cleared for the history of the period by a careful study of the institutions of the Old Régime, in which the remoter causes of the Revolution will be discovered. A consideration of the more immediate causes and the attempts at reform will introduce the Estates General. The Revolution ran through three periods, which answer to the National Assembly, the Legislative Assembly, and the Convention, to the extreme of a Red Democracy. Three more periods, corresponding to the Directory, the Consulate, and the Empire, see France return to a military absolutism under Napoleon. The greatest emphasis will be laid upon the institutional changes induced by the French Revolution, and attempt will be made to show the constructive work of the Revolution and of Napoleon. Its importance as one of the greatest generic events of the world's history will give the course a significance wider than France alone. It is desirable that the student be familiar with the outlines of modern European history. Mj. ASSOCIATE PROFESSOR THOMPSON.

11. Europe in the Nineteenth Century (1815-1900).—The following topics indicate the scope of the course: the attempt to govern Europe according to the reconstruction of 1815; the agitation for popular government in France, Italy, and Germany; the revolutions of 1830 and 1848; France under Napoleon III; the growth of German and Italian unity; the establishment of the German Empire, of the dual system in Austria-Hungary, and of the Third French Republic; national development and international relations since 1870. The course presupposes an outline knowledge of the French Revolution and the Napoleonic epoch. Students who have not recently studied this period will be expected to prepare themselves by a careful reading of some manual, such as J. H. Rose's *The Revolutionary and Napoleonic Era*, or H. Morse Stephens' *Revolutionary Europe*. Mj. DR. HARVEY.

12. Outline History of Civilization.¹—This course consists of two majors, each containing twenty lessons. The first major begins with the History of Greece and follows the various phases of development through Roman history to the rise of the German Empire in the early part of the Mediaeval period. The second major treats of the later Middle Ages, of the Renaissance, and of modern times till close upon the French Revolution. In each division the study will proceed mainly on the four lines: (1) government in its connection with political and constitutional history; (2) social life as it is shown in the family relations and the attitude of the classes toward each other; (3) economic progress, particularly with regard to cultivation, commerce, and communication; (4) higher culture and art. The course is planned with the purpose of developing the taste of the student for careful, comprehensive reading, cultivating his reasoning, and broadening his view of both history and life. Acquaintance with the facts of history is presupposed. The student will be expected to do a great deal of reading, and should have access to a rather well-equipped library. DMj.

13. Chief Features of the Progress of Civilization in the Nineteenth Century.¹—This course affords a rapid survey of the causes which have led to the vast enlargement of ideas and scope of life witnessed during the century just closed. The causes are many and varied, but, for the sake of comprehensiveness, may be grouped under three headings: (1) *political* changes during and after the French Revolution, such as the growth of public liberty, the recognition of the rights of the individual, the prevalence of popular representation, the struggle against disqualification, whether social, economic, or religious; (2) *social* changes, manifested in the leveling of class-distinction, the rise to prominence of a rich middle class, the popularizing of the church, the growth of brotherhood, the prominence of public opinion, the enlightenment of the masses; (3) *economic* changes, such as the development of material resources, the growth of capitalistic enterprise, the claims of labor, increase of transportation, the development of a world-market, investigation into the cause and effect of commercial disturbances, and many others; all in connection with, or parallel to, the growth of science, the spread of education and freedom of thought, and the development of methodical inquiry. The course is divided into two majors, the first being concerned more with political changes, the second with the social and economic phases of development. The work will be better appreciated by those who have taken course 12, "Outline History of Civilization," though it can be satisfactorily pursued by those who have

¹ Not given during 1910-11.

not had that course. Access to a well-equipped library is important, although not imperative to the success of the work. DMj.

AMERICAN HISTORY

GROUP I

NOTE.—The courses in American history fall into three groups: first, an outline course (14), second, a series of four courses (15-18) covering, in a more thorough manner, the entire field; third specialized courses on selected topics or periods such as 19. The student is advised to take the courses of the second group in sequence. In this way he will greatly economize the expenditure for books, since successive courses require the same textbooks to some extent. Graduate credit may be obtained in courses 15, 16, 17, and 18, by properly prepared students who have access to sources and original documents and who do additional advanced work under the direction of the instructor.

14. Outline History of the United States from Colonization to the Present Time.—Colonial history will be considered very briefly, while the period from 1763 will be emphasized and an acquaintance made with some of the important documents and sources of American history. It will be especially helpful to high-school teachers. Mj. MISS KNOX.

GROUP II

15. Colonial Period (1492-1763).—

A. Discovery and Colonization.—The course deals with the American aborigines, the causes and motives leading to the discovery of America, the voyages and journeys of the discoverers, the claims arising from these explorations, the growth of geographic knowledge, and the founding of the English, French, Spanish, Dutch, and Swedish Colonies. M.

B. Colonial Institutions and History.—This course begins with a study of the political institutions of the American colonies. English colonies receive most attention, but those of other nations are also considered. The chief events of colonial history are then considered, with especial reference to the relations between the English colonies and the mother country. The course concludes with a survey of the struggle for supremacy in North America, ending with the final triumph of the English in the Seven Years' War. M. DR. JERNEGAN.

16. The Formation of the Nation (1763-1789).—

A. The American Revolution (1763-1783).—The following topics show, substantially, the content of the course: the territorial, political, and economic condition of the English colonies in 1763; the new policy of the English government; the development of colonial opposition; the constitutional and philosophical arguments on both sides; the beginning of hostilities; the Declaration of Independence; the progress of the war; Congress as a governing body; the Loyalists; French and Spanish intervention; Washington's triumph; the preliminaries and terms of peace of 1783. M.

B. Confederation and the Constitution (1783-1789).—The following topics are treated: the results of the Revolutionary War; the government under the Articles of Confederation; the organization of the western territory; interstate controversies; problems of diplomacy and foreign trade; violations of the treaty of peace; paper money; the Shays Rebellion; the Constitutional Convention; analysis of the Constitution; the process of ratification. M. DR. JERNEGAN.

17. The Growth of the Nation (1789-1861).—

A. Foreign Politics and National Expansion (1789-1829).—Beginning with the organization of the national government, the course deals with the policy of the Federalist party in foreign and domestic politics and the rise of the Democratic opposition. The broad and strict constructions of the Constitution are carefully studied. Further topics are the fall of the Federalists; Jefferson's policy; annexation of Louisiana; experiments in neutrality; and the causes, progress, and results of the War of 1812. The course concludes with a survey of the political and economic reorganization after the war, including western expansion, the Missouri Compromise, the Monroe Doctrine, and the triumph of the Jacksonian democracy. M.

B. The Strife of Sections (1829-1861).—This course opens with a study of Jackson's administration—the civil service, tariff, nullification, bank, etc. Slavery then becomes the dominant issue. The chief topics are slavery as a system; the anti-slavery movement; Texas and the Mexican War; the Compromise of 1850; the Kansas-Nebraska

question; the Dred Scott case; the rise and final triumph of the Republican Party; and the consequent secession of the southern states. M. DR. JERNEGAN.

18. Consolidation and Expansion (1861-1904).¹—

A. *Civil War and Reconstruction*.—M.

B. *Political and Economic Centralization—The Nation as a World-Power*. M. DR. JERNEGAN.

GROUP III

19. Problems of the Civil War and the Reconstruction Period (1861-1881).

—A study of some of the special questions, military, political, constitutional, and social, arising in connection with the Civil War and the readjustments which followed. This course is intended for advanced students and cannot be taken with advantage unless there is access to a good library. Mj. ASSOCIATE PROFESSOR SHEPARDSON.

SCHOOL OF EDUCATION

20. History for Primary Grades.—This course is designed for teachers in primary grades and also for supervisors and principals. It aims (1) to show the principles upon which subject-matter should be selected for the children of the lower grades; (2) to assist the teacher in outlining a course of study; (3) to give practical help in methods of presenting subjects to children; (4) to show the relation which a course of study in history should bear to the social occupations of the school. The course treats of the following topics: primitive, industrial, and social life; local history; civics; constructive work; children's literature. Students who are teaching in primary grades may modify their work to make it of practical assistance in their own schools. The course covers the ground of course 2 in residence. Mj. ASSOCIATE PROFESSOR RICE.

21. Teachers' Course in American History.—This course is intended for teachers in the upper grades of the elementary schools. It gives a brief study of colonial history and of the Revolutionary war, and a fuller treatment of the period of westward expansion. The effects of geographical environment upon occupations and of occupations upon social life and government are emphasized. The course corresponds to course 3 in residence. Mj. ASSOCIATE PROFESSOR RICE.

VI. SOCIOLOGY AND ANTHROPOLOGY

SOCIOLOGY

1. Introduction to Sociology.—A study of the phenomena of social life; the basis of society in nature; the social person; social institutions; and social psychology, order, and progress. The course is designed to give an introduction to theoretical and practical sociology, and to systematize the reading, observation, and thinking of advanced students. The order of thought will be that of Henderson's *Social Elements*, and bibliography will be added according to the need of each student. Mj. ASSISTANT PROFESSOR MACLEAN.

2. Introduction to the Study of Society.—This course is designed to afford a synthetic view of social phenomena, and to furnish the student with a scientific method for the study and correct understanding of ordinary human association. Considerable attention will be paid to local studies as a means of amplifying the text. The aim is to have the course serve as an introduction to the special social sciences. Mj. ASSISTANT PROFESSOR MACLEAN.

3. Elements of Industrial History.—The aim of this course is to acquaint the student with the salient facts of American industrial history and to furnish a foundation for those who wish to do further work in economics or sociology. Selected industries will be studied in detail and their evolution discussed. A course for practical people as well as for students. Mj. ASSISTANT PROFESSOR MACLEAN.

4. Social Debtor Classes.—A course for practical social workers and supporters of social amelioration. As the starting-point, is taken the particular work in

¹ Not given during 1910-11.

which the student is engaged, and an attempt is made to discuss various forms of preventive and constructive social work from the standpoint of the relief visitor, city missionary, alienist, contributor, or lay student, as the case may be. Texts are chosen with a view to the reader's special needs, and illustrations are based upon his local, county, and state institutions. At least one text on theoretical sociology is read. The chief aim of the course is to give occasion for the reader to analyze, classify, and describe his own environment and his own experience and observation. Prerequisite: Course I or its equivalent. Mj. ASSISTANT PROFESSOR MACLEAN.

5. Modern Cities.—A study of the development of cities, with special reference to American municipalities, their physical conditions, public services, political, industrial, and social groupings. Mj. ASSISTANT PROFESSOR MACLEAN.

6. Rural Life.—The aim of this course is to study rural social life in America, with its problem of isolation, and organized efforts for improvement. The course is designed to meet the needs of Young Men's and Young Women's Christian Association secretaries, country ministers, teachers, social workers, and others who are dealing with the problems of rural communities. The country will be studied in its physical, economic, and psychological aspects with a view to a thorough understanding of rural life, a discovery of needs and existing efforts to meet these, and suggestions for further improvement. Mj. ASSISTANT PROFESSOR MACLEAN.

7. Contemporary American Society.—A general survey of social conditions in the United States, dealing with the character and distribution of population, religious divisions, economic groupings, the educational system, the press, political machinery, etc. On this basis certain generalizations as to influences now at work, the social ideals of various classes, etc., will be considered. (Informal.) Mj. PROFESSOR VINCENT.

ANTHROPOLOGY

8. General Anthropology.—An introductory course treating of the origin, antiquity, distribution, and early occupations of man and of the sources of language, religion, the arts, and social relations. Mj. ASSOCIATE PROFESSOR STARR.

9. Origin of Social Institutions.—Treats of association in the tribal stage of society; the origin and relations of invention, trade, marriage, class distinctions, government, art, and the professions; and the ethnological and anthropological basis of sociology. (Informal.) Mj. ASSOCIATE PROFESSOR THOMAS.

10. Primitive Social Control.—A study of primitive juridical and political systems, and of social conventions; e.g., the family; clan; tribal and military organizations; totemism; tribal and property marks; tabu; personal property and property in land; periodical tribal assemblies and ceremonies; secret societies; medicine men and priests; caste; blood-vengeance; salutations; gifts; tribute; oaths; and forms of offense and punishment among typical tribes of Australia and Oceania, Africa, Asia, and America. (Informal.) Prerequisite: course 9. Mj. ASSOCIATE PROFESSOR THOMAS.

VIA. HOUSEHOLD ADMINISTRATION

1. House Sanitation.—This course offers a comprehensive and practical study, based on scientific principles, of the sanitary aspects of the home. Among the topics treated are the choice of building site, construction and care of cellar, drainage, plumbing, heating, lighting, furnishing, and cleaning. Mj. PROFESSOR TALBOT.

2. Foods and Dietaries.—A course in practical dietetics covering the study of the composition of foods, scientific principles of preparation, and their combination in dietaries from an economic and physiological standpoint. Mj. PROFESSOR TALBOT.

3. Administration of the House.—This course will consider the order and administration of the house with a view to the proper appointment of the income and the maintenance of suitable standards. Changes in household industries in the light of modern economic and social conditions, and sanitation, will be studied. The domestic service problem will be investigated. Mj. PROFESSOR TALBOT.

SCHOOL OF EDUCATION

4. Design, Furnishings, and Decoration of the House.—This course treats of the general principles that govern the decorating and furnishing of an artistic home, and is intended: (1) for home-makers, as an aid (a) in the selection of paints and stains for house exteriors, wall and floor coverings, draperies and upholstery, furniture, hardware, table appointments, etc., (b) in the arrangement of the home with due regard to color harmonies and space relations, and (c) in the designing and executing of such pieces of handcraft as stenciled or embroidered hangings and covers, lamp and candle shades, screens, pillows, etc.; (2) for teachers, as an enrichment of the courses in art and domestic science in primary and secondary schools, offering in the home a nucleus for a course embracing various problems in design and handwork. The following topics are treated: (1) domestic architecture, its evolution, "style" and styles of the day, selection from architects' drawings, exteriors and plans; (2) color and color harmonies, applied to the exterior and interior of a house; (3) proportion and space relations with illustrative problems in design; (4) study in detail of walls, floors, stairs, doors, windows, furniture, hardware, and textiles, with investigation, under direction, of articles to be found in the stores. Mj. MISS RAYMOND.

5. The Application of Heat to Food Materials.—This course includes (1) a study of the food principles; (2) the methods by which heat is applied to food and the effect of different temperatures on the food principles, cooking apparatus and its construction, household fuels and their economic value; (3) combinations of foods and the development by experiment of the principles underlying proportions and methods; (4) the interpretation of common processes of food preparation, with some of the simpler principles of chemistry and bacteriology involved; (5) typical manufacturing processes, and some phases of the history and geography of food products; (6) laboratory directions and experiments; (7) the carrying out of actual cooking processes as a result of the application of these experiments. The course is planned to meet the needs (1) of those who are beginning their preparation for teaching the household arts; (2) of teachers who desire to review their work in the light of the recent development of the subject; (3) of social workers in institutions whose activity is largely expressed in household administration; (4) of progressive housekeepers. The two majors correspond to residence courses 3 and 4 and should be taken in sequence.

A. An introduction to the study of food, with its place in home economics. The cost of food; formulation of weights and measures; water—its use in the body and its use in cooking processes; boiling and freezing points and the factors that effect them; solution; evaporation; the preparation of tea, coffee, and frozen mixtures; different methods of conveying heat; coal and gas ranges; the fireless cooker; a study of fruit and its composition, introducing the subjects of mineral salts, organic acids, and sugar; bacteria, yeasts and molds in connection with the canning and preserving of fruit; jelly making; starch and the study of vegetables, with their preparation in various ways; classification of carbohydrates; fats—their decomposition products, their use in cooking, the comparative value of various kinds as food; the introduction of protein through the study of milk; classification of food principles; butter making; cheese cooking; pasteurization and sterilization; eggs, giving different types of protein. Mj.

B. A continuation of the study of proteins illustrated by meat cooking, with especial reference to the effect of different temperatures. Gelatin and its use; soups; combinations of starch and protein; salads; the study of cereals; flour and its manufacture; the analysis of flour; doughs and batters, and methods of lightening them; the chemistry of baking powder; yeast in relation to bread making; the making of menus and preparation of meals. Mj. MISS SPRAGUE AND MISS ALLISON.

6. The Chemistry of Foods.—A study of (1) the properties and characteristic reactions of proteids, carbohydrates, and fats, with qualitative tests for their identification; (2) separation of the food principles; (3) study of milk, water, and flour, with some of the simpler methods employed in their analysis; (4) experiments in fermentation; (5) food adulterations and household methods for their detection; (6) laboratory work. Prerequisite: one year of chemistry and course 2 or 5, or an equivalent. Mj. MISS SPRAGUE AND MISS ALLISON.

7. The Teaching of Home Economics.—A study of the purpose of this work in the schools; its value as training; its relation to the social life of the school and of the home; the correlation with other studies in the curriculum; the relation of the handwork involved, to the science that underlies it and that grows out of it; the selection of subject-matter and the planning of courses, and their adaptation to different conditions; the planning of school laboratories, and the choosing of equipment. Prerequisite: one year of technical training in the subject. Mj. MISS SNOW.

NOTE.—Related courses will be found under Departmental Nos. II, III, VI, XVII, XX, XXII, XXIV, and XXVIII.

VII. COMPARATIVE RELIGION

1. Introduction to the History of Religion.—This course is elementary in character and aims to conduct the student into the study of the general principles of religion and the history of the various religions of the world. Mj. DR. CONARD.

2. The Religion of Uncivilized Peoples.—This course surveys primitive religious customs and beliefs, noting their survivals in higher religions. The first part of the course consists of a general study of the religion of uncivilized peoples. In the second part a special study is made of the religion of the North American Indians, or of some other uncivilized people, concerning whom material is available to the student. Mj. DR. CONARD.

3. Comparative Theology: The Idea of God.—This is a cursory study of the idea of God as seen in primitive myth and cult, and in the religious rites and literature of the chief historic religions. Prerequisite: course 1 or 2 or an equivalent. Mj. DR. CONARD.

VIII. THE SEMITIC LANGUAGES AND LITERATURES

AND

XXI. OLD TESTAMENT LITERATURE AND INTERPRETATION

1. Elementary Hebrew.—Includes the mastery of the Hebrew of Genesis, chaps. 1-3; the study of the most important principles of the language in connection with these chapters; Hebrew grammar, including the strong verb and seven classes of weak verbs; and the acquisition of a vocabulary of four hundred words. Mj. ASSISTANT PROFESSOR J. M. P. SMITH.

2. Intermediate Hebrew.—Includes the critical study of Genesis, chaps. 4-8, with a review of Genesis, chaps. 1-3; the more rapid reading of fourteen chapters in I Samuel, Ruth, and Jonah; the completion of the outlines of Hebrew grammar and an increase of vocabulary to eight hundred words. Mj. ASSISTANT PROFESSOR J. M. P. SMITH.

3. Exodus and Hebrew Grammar.—Includes the critical study and translation of Exodus, chaps. 1-24; a more detailed study of Hebrew grammar; an inductive study of Hebrew syntax; and the memorizing of three hundred additional words and of several familiar psalms in Hebrew. Mj. ASSISTANT PROFESSOR J. M. P. SMITH.

4. Haggai, Zechariah, and Malachi.—A course of twenty recitations, including the critical and exegetical study of these books; the lexicographical study of two hundred important words; the principles of Hebrew prophecy; a study of Hebrew syntax, especially the subjects of the tense and sentence; the Hebrew accentuation; and the memorizing of about eight hundred words. M. ASSISTANT PROFESSOR J. M. P. SMITH.

5. Elementary Arabic.—An inductive study of the elementary principles of Arabic grammar. The Arabic text of Genesis, chaps. 1 and 2, the Story of Bilqis, and the early Suras of the Qurân furnish the basis of the work. Mj. DR. MODE.

6. Elementary Assyrian.—The early recitations are based chiefly on the transliterated text, the others on the cuneiform. The student will learn the most com-

mon cuneiform signs, the strong verb and all classes of weak verbs, and the fundamental principles of the language. A knowledge of Hebrew is prerequisite. M. PROFESSOR BERRY.

7. Intermediate Assyrian.—This includes the reading of several hundred lines of historical cuneiform text, with special attention to vocabulary, a further study of Assyrian grammar, including syntax, and the learning of most of the remaining cuneiform signs that are in frequent use. M. PROFESSOR BERRY.

8. Elementary Egyptian.—Study of (1) the speech of Thutmosis I to the priests of Abydos; (2) the romance of Sinuhe (transliterated from the Hieratic) in Erman's *Chrestomathy*. It includes the acquisition of the commonest signs, and the grammatical principles of the language of the classic period. Mj. PROFESSOR BREASTED.

9. Outline of Hebrew History.—A survey study of the history of the Hebrew people as presented in the Old Testament from the period of the Conquest and establishment in Canaan to the Maccabean struggle and the close of Old Testament history. The course will embrace a preliminary sketch of the patriarchal period, with a more detailed study of the Conquest, the period of the Judges, the United and Divided Kingdoms, the Exile, the revival of Judah, and the beginnings of Judaism. The bearings of prophetic activity upon the history and literature will also receive consideration. A knowledge of Hebrew is not required. Mj. ASSISTANT PROFESSOR J. M. P. SMITH.

10. An Introduction to the Old Testament.—This study embraces such points as will familiarize one with the outline features of this portion of the Bible. It will emphasize: (1) The method of preserving ancient records, (2) the method of compiling and editing those documents, (3) the historical background of the Old Testament books, (4) the literary character of each book, (5) its chief doctrinal teachings, (6) its place in the scheme of biblical revelation, and (7) the best literature with which to pursue and solve its problems. The work is planned on a practical basis, and aims to give students a reasonably complete idea of the new and real advances that have been made in the last few decades in the understanding of the Old Testament. Mj. PROFESSOR PRICE.

11. Old Testament Prophecy.—The purpose of this course is to aid in securing a better understanding of the rise and development of prophecy in Israel. Some of the more important matters to be considered are: (1) the controlling ideas in the teaching of each of the great prophets; (2) the relation of the prophet and his work to the political and social movements of his day; (3) the attitude of the prophet toward the priest and priestly institutions; (4) the place of prophecy in the preparation for the work of Christ. A knowledge of Hebrew is not prerequisite. Mj. ASSISTANT PROFESSOR J. M. P. SMITH.

12. Old Testament Worship.—A study of the element of worship and the institutions and literature connected with worship in the Old Testament. Special consideration will be given to such topics as: (1) the priest; (2) place of worship; (3) sacrifice; (4) feasts; (5) tithes; (6) clean and unclean, etc.; (7) the origin and character of the Sabbath; (8) the date and character of Deuteronomy; (9) the origin of the Levitical legislation; (10) the composition of the Hexateuch. Attention will be given to the characteristic ideas of the priest as distinguished from those of the prophet, and to the growth of priestly influence in Israel's religious life. A knowledge of Hebrew is not prerequisite. Mj. ASSISTANT PROFESSOR J. M. P. SMITH.

13. Isaiah and His Times.—The course will comprise a historical survey of the Isianic Period; an analysis of the material of the book; the occasion and purpose of its prophecies; its doctrinal teachings; and its chronological arrangement. Special attention will be given to the life of the prophet, his rôle in the development of Hebrew prophecy, and the important problems suggested by the book. Opportunity will be afforded for independent and constructive investigation. A knowledge of Hebrew is not required. Mj. DR. MODE.

Members of the Semitic Department will endeavor to arrange informal courses for students who are prepared to do work of an advanced nature, whenever practicable.

IX. BIBLICAL AND PATRISTIC GREEK

AND

XLII. NEW TESTAMENT LITERATURE AND INTERPRETATION

1. Elementary New Testament Greek.—A course for beginners, presupposing no knowledge of Greek. It aims to secure, by an inductive study, the absolute mastery of chaps. 1-4 of the Gospel of John, and the essential facts and principles of the language. Emphasis is placed upon the writing of exercises in Greek. Mj. DR. BAILEY.

2. Intermediate New Testament Greek.—This course is designed for those who have completed course 1, and for those who wish to review their Greek in connection with the New Testament. It comprises the thorough study of the entire Gospel of John, and the reading at sight of the first Epistle of John; also the acquisition of vocabulary and the most general principles of grammar. One who has diligently worked through this course should be able, with the aid of the lexicon, to read with comparative ease the New Testament. Mj. DR. BAILEY.

3. Advanced New Testament Greek.—For those who have a good knowledge of Greek, college graduates, and others who wish to make a special study of New Testament Greek. A thorough study of the syntax of New Testament Greek as regards the verb, and a historical and linguistic study of the entire Book of Acts. This course corresponds to residence course 1 and is required for the D. B. degree. Mj. ASSISTANT PROFESSOR CASE.

4. Introduction to New Testament History.—An account of the rise and fall of the Jewish state from 175 B. C. to 135 A. D., with special attention to the history of the Pharisees and Sadducees, and to the Jewish social and religious life. The aim of the course is to furnish a historical background for the life of Christ. This course corresponds to residence course 2, and is required of candidates for the D. B. degree. Mj. ASSOCIATE PROFESSOR VOTAW.

5. Introduction to the Books of the New Testament.—

A. Life of the Apostle Paul and Introduction to the Pauline Epistles.—The work in this course is done on the basis of a handbook, containing an outline of the life of Paul, topics for special study, with references to literature, and a brief introduction to the epistles. The aim is to prepare the student for the interpretation of the letters of Paul and for an understanding of his personality and theology. Mj.

B. Introduction to the Gospels, Acts, and General Epistles.—Includes the study of the occasion and purpose of each book and its general content and structure. Mj. PROFESSOR BURTON AND DR. BAILEY.

NOTE.—Either 5A or 5B may be substituted for residence course 3, required of all candidates for the D. B. degree. Elective credit will be given for the other major.

6. The Gospel of Luke.—An inductive study leading to a mastery of the plan and development of the gospel and its fundamental teachings. The critical questions that arise and the historical background also receive attention. M. DR. BAILEY.

7. The Gospel of John.—A course developed on an inductive plan especially suited to the peculiar structure of the book. The work of the course includes: a study of the origin and character of the gospel; comparison with the other gospels; the conception of Christ herein portrayed; the discourses of Jesus; and application to present life and character. M. DR. BAILEY.

8. Constructive Studies in the Life of Christ.—The aim of the course is to enable the student to construct his own "Life of Christ" in a true historical perspective. To this end the entire gospel history will be studied in a connected way, especial attention being given to the most important political and social features of New Testament times, and to the interpretation of critical passages. Mj. DR. BAILEY.

9. Research Course in the Life of Christ.—A course designed to follow course 8, or an equivalent study of the "Life of Christ." The purpose is a thorough investigation of fourteen main topics and problems in the gospel history, such as the origin and characteristics of the gospels, the development of the religious and messianic

consciousness of Jesus, the plan and the chief events of his public ministry, and the growth and crisis of the opposition to him. Use will be made of the best literature upon the subject. Papers by the student upon the several topics will be discussed by the instructor. M. ASSOCIATE PROFESSOR VOTAW.

10. **The Teaching of Jesus.**—The four gospels will be investigated as to their origin, characteristics, trustworthiness, and the manner of their use for ascertaining the teaching of Jesus. The chief ideas and characteristics in Jesus' day will be studied as the historical background to his teaching; also the development of Jesus' own religious experience and ideas, and the aim, limits, style, and method of his teaching. Then will follow topically a comprehensive, careful study of the content of Jesus' teaching. Mj. ASSOCIATE PROFESSOR VOTAW.

11. **The Ethical Teachings of the New Testament.**—The moral ideal of Jesus is to be studied on the basis of the Sermon on the Mount in Matthew, supplemented by material from other portions of the gospels. The specific principles set forth by Jesus, and the application which he made of them to his own life and to the conduct of others, will be interpreted. Similarly, the moral ideal of Paul will be considered, with its principles and applications, and a comparison of Paul's ethics, with the ethics of Jesus, will be made. The teaching of the Epistle of James and other New Testament writings will be examined also. Then the applicability and the adequacy of the ethical teaching of the New Testament to present-day living—individual and social, and the relation of New Testament ethics to modern scientific ethics will be considered. Mj. ASSOCIATE PROFESSOR VOTAW.

12. **The Social Teaching of Jesus.**—The teaching of Jesus concerning society, the state, the family, wealth, and other social institutions. Mj. PROFESSOR MATHEWS.

13. **The Messianic Hope in the New Testament.**—Mj. PROFESSOR MATHEWS.

14. **Christianity in the Apostolic Age.**—While Gilbert's *Christianity in the Apostolic Age* serves as a guide, the emphasis throughout the course is laid upon the independent study of the New Testament and the importance of a thorough acquaintance with it. As far as possible the student will be led to construct his own story of the development of primitive Christianity. The study follows in the main the outline of the Book of Acts, but the Epistles are also used in so far as they reflect conditions of life and thought during the period. It is the aim of the course to give not only a correct understanding of each individual event in itself but also a just conception of this earliest period of the church as a whole. Mj. DR. BAILEY.

15. **The Apostolic Fathers.**—The course includes a study of (1) the early Christian literature ca. 95–150 A. D.; (2) problems of date, authorship, and purpose; (3) reading of the Greek; and (4) studies in theology and polity. Outlines of the literature will be provided, and reports covering the topics given above will be required. The later development of New Testament ideas and practices, as reflected in this early Christian literature will be especially emphasized. Mj. ASSOCIATE PROFESSOR GOODSPEED AND DR. ROBISON.

16. **Quotations from the Old Testament in the Gospels.**—Involves an interpretation of the Old Testament passages on the basis of the Hebrew, of the New Testament passages in the Greek, and a comparison of the results. M. PROFESSOR BURTON AND DR. BAILEY.

X. SANSKRIT AND INDO-EUROPEAN COMPARATIVE PHILOLOGY

1. **Elementary Sanskrit.**—The aim of the course is to give the student a thorough grounding in the essentials of Sanskrit grammar, the principles of which are illustrated by constant translation from Sanskrit into English and from English into Sanskrit. It is designed as an introduction to the selections from classical Sanskrit in Lanman's *Reader*, which the student should then be prepared to read rapidly by himself. No attempt is made to teach comparative philology in this course. Mj. DR. CLARK.

2. **Elementary Russian.**—

A. After a general study of the declensions and conjugations, texts supplied with extensive notes will be taken up and mastered. Mj.

B. Continues the study of texts with review of inflectional forms. The vocabulary will be enlarged by the study of roots and suffixes. Elementary composition. Extensive syntax study. Mj. MR. HARPER.

NOTE.—These courses are eminently practical. Provisional credit is given when A is passed. It will be made permanent when B is passed.

3. Elementary Chinese.—

A. This course gives the student (1) the principal rules for pronouncing Chinese words; (2) a vocabulary of about 250 of the most common words; (3) practice in constructing short sentences in Chinese; (4) progressive exercises involving the elements of the grammar—verbs, nouns, and adjectives; (5) drill in translating short sentences from English into Chinese and *vice versa*. A Chinese elementary reader will be used in the latter part of the course. Mj.

B. Advancing on A, (1) the vocabulary will be extended to include 500 words; (2) the more difficult points of the grammar will be taken up; (3) the development of verbs will receive special consideration; (4) longer exercises in translating Chinese into English and *vice versa* will be required. A more advanced Chinese reader will be used. Mj. YINCHANG TSENSHAN WANG.

4. Elementary Japanese.—

A. After a general survey of the history and characteristics of the language, a study of the essentials of grammar will be taken up in connection with the vocabulary of daily intercourse. From the outset drill will be given in the writing of Japanese characters. Exercises in translating simple Japanese into English and English into Japanese will be required. Mj.

B. The more difficult points of grammar will be studied, selections from the elementary reader compiled by the Japanese Department of Education will be read, and simple compositions in Japanese will be required. Mj. MR. TSUNEKAWA.

The instructors will suggest reading for further work in Sanskrit or comparative Philology.

XI. THE GREEK LANGUAGE AND LITERATURE

ACADEMY

1. **Elementary Greek.**—In two majors is offered the equivalent of the first year of high-school work in Greek. The writing of Greek is required from the beginning.

A. White's *First Greek Book*, Lessons 1-60. These lessons include the commonest noun and adjective declensions, the Omega system of conjugation, some fundamentals of syntax, connected reading lessons epitomizing the story of the *Anabasis*, and a vocabulary of 600 common Greek words. Mj.

B. (1) White's *First Greek Book*, Lessons 61-80. These lessons include the Mi system of conjugation, reading lessons continuing the *Anabasis* story, and an additional vocabulary of 250 words. (2) the *Anabasis* of Xenophon, Book i, chaps. 1-3. These lessons call for constant review of the material studied in the *First Greek Book*. Mj. ASSISTANT PROFESSOR BRONSON.

2. Xenophon: *Anabasis*.—

A. From Book i, chap. 4, through Book ii, chap. 4, about fifty pages. Exercises in writing Greek based upon the text. Mj.

B. From Book ii, chap. 5, through Book iv, about ninety pages. Greek composition, including a topical treatment of syntax. Collateral readings in Gulick's *Life of the Ancient Greeks*, Grote's *History of Greece*, etc. Occasional tests in translation at sight. Mj. ASSISTANT PROFESSOR BRONSON.

3. Homer: *Iliad*.—

A. Books i-iii.—An introductory study of the *Iliad* in which the literary and linguistic aspects of the poem and the Greek life of the Homeric period are considered. Particular attention is paid to prosody and the peculiarities of epic dialect and syntax. Mj.

B. Books iv-vi.—In this course the lines of study in A are continued, with special emphasis upon the literary features of the Epic. Mj. MR. ROBBINS.

COLLEGE

4. **Plato: *Apology* and *Crito*.**—In connection with these writings Xenophon's *Memorabilia* will be read to furnish a basis for the study of the life and philosophy of Socrates as interpreted by Plato and Xenophon. Brief outline of Plato's life and works. Prose composition based on text accompanied by discussion of syntax and idioms of Plato. Mj. PROFESSOR MISENER.

5. **Homer: *Odyssey*, Books v-xiii.**—This course aims chiefly at enabling the student to translate Homer fluently and with appreciation. It also includes a review of epic dialect and syntax, and a study of Homeric life and antiquities. Mj. PROFESSOR MISENER.

6. **Herodotus: *Historiae* (Books vi-vii).**—The reading covers the second Persian Expedition against Greece, ending at Marathon, and the Invasion of Xerxes as far as the Battle of Thermopylae. The history of this period and the language and style of the author are studied. Mj. MR. ROBBINS.

7. **Advanced Prose Composition.**—The course offers to teachers and others an opportunity to perfect themselves in Greek syntax, sentence structure, and the use of particles. The exercises are graded from simple narrative passages in the style of Xenophon to more difficult selections in the style of Plato and Demosthenes. Mj. ASSISTANT PROFESSOR BONNER.

8. **Demosthenes: *Philippics*, and *Lysias*, select orations.**—A general introduction to Attic oratory. The literary characteristics of the authors studied and the public life and the history of their times are considered. Mj. MR. ROBBINS.

9. **Demosthenes: *De Corona*.**—This oration, admitted to be the greatest one of ancient times, will be studied chiefly from the literary point of view. Mj. MR. ROBBINS.

10. **Introduction to the Greek Drama.**—Sophocles' *Antigone* and Aristophanes' *Clouds* are read. Attention is given to the various problems connected with these plays, to the character delineation, and the method of presentation. Collateral reading is assigned on the history of Greek drama and theater. Mj. PROFESSOR MISENER.

11. **History of Greek Literature.**—The course is designed for two classes of students, those who have not studied Greek but desire an intimate knowledge of Greek literature, and those students of Greek who wish a general survey of Greek literature and an opportunity to study the Greek masterpieces more fully from the purely literary point of view. The course includes: (1) a systematic survey of the history of Greek literature down to the Alexandrian period, treating (a) of the origin and development of the various branches of literature, (b) the more important Greek authors, (c) Greek institutions, art, and religion in so far as a knowledge of these is necessary for the understanding of Greek literature; (2) analytical and comparative study of the masterpieces of Greek literature in selected translations. Mj. PROFESSOR MISENER.

Members of the Greek department will endeavor to arrange informal courses for students who are prepared to do work of an advanced nature whenever practicable. Professor Shorey will occasionally guide by correspondence the work of advanced students who propose to attend the University.

XII. THE LATIN LANGUAGE AND LITERATURE

ACADEMY

1. **Elementary Latin.**—In two majors is offered the equivalent of the first year of high-school work in Latin. Starting with the rudiments, the aim is to acquaint the student with all the regular forms and common constructions found in Caesar's *De Bello Gallico*, and to give him a large vocabulary.

A. Includes all the declensions of nouns and adjectives, all the conjugations of regular verbs, and the simplest rules of syntax. Mj.

B. Provides (1) a review of verb forms, the conjugation of the irregular verbs, and the more difficult constructions in syntax, and (2) the study of Caesar: *De Bello Gallico*, Book I, chap. 1-30, covering the Helvetian War. Mj. MISS PELLETT AND MISS PEEDE.

2. Caesar: *De Bello Gallico*.—

A. *Book ii*.—This course is intended for students who have completed course 1, but who have had no other practice in translation. Special attention is given to a review of forms and syntax. Exercises in prose composition based upon the text form a part of each lesson. Mj.

B. *Books iii-iv*.—Continues the above. The more difficult Caesarian constructions are carefully studied, and further practice is given in prose composition. Mj.

C. *Book i*.—The latter part of Book i, the war with Ariovistus, is read. While forms, syntax, and prose composition continue to be studied, indirect discourse receives special attention. Students are required to change all the passages in indirect discourse to the direct discourse. M. MISS PELLETT AND MISS PEEDE.

3. Viri Romae.—A series of twenty lessons based upon the interesting stories of early Rome; open to those who have completed course 1 or its equivalent, and who desire to increase their vocabulary and acquire facility in reading Latin. M. MISS PELLETT AND MISS PEEDE.

4. Nepos.—Like course 3 in aim and prerequisites. M. MISS PELLETT AND MISS PEEDE.

5. Cicero: *Orationes*.—

A. *In Catilinam, i-iv*.—This course includes translation, a review of forms and of more difficult constructions, exercises in Latin composition based upon the portion of text assigned in each lesson, and the history of the period. Mj.

B. *Pro Lege Manilia* and *Pro Archia*.—Continues A and includes a careful study of the literary style of Cicero, of all historical references, and exercises in prose composition, based upon the portion of text assigned in each lesson. Especial attention is given to translating into good English. Mj. MISS PELLETT AND MISS PEEDE.

6. Vergil: *Aeneid*.

A. *Books i-ii*.—The work includes a study of prosody, word-derivation, constructions peculiar to the poets, and the more common rhetorical figures. Mj.

B. *Books iii-vi*.—Continues A and lays emphasis upon elegance of translation, the mythology, and the literary style of Vergil. Mj. MISS PELLETT AND MISS PEEDE.

7. Selections from Roman Writers.—This course will be of advantage to those who wish to become acquainted with the style of different Roman writers. Mj. MISS PELLETT AND MISS PEEDE.

8. Prose Composition Based on Caesar.—This course affords (1) practice in writing Latin in connected passages based on Caesar's *De Bello Gallico*, (2) a thorough review of grammatical forms and constructions found in the *De Bello Gallico*; (3) a careful study of synonyms. As the course is informal, special attention can be given to any subject in which the student is deficient. M. MISS PELLETT AND MISS PEEDE.

9. Prose Composition Based on Cicero.—Like course 8, using the orations as a basis. M. MISS PELLETT AND MISS PEEDE.

NOTE.—The courses 1-9 are intended for three classes of students: (1) those who are preparing to enter college; (2) those who wish to study Latin for their own benefit; (3) teachers of Latin who from the topics and questions in each lesson can receive suggestions for their own work, e.g., the points to be emphasized at different stages in Caesar, Cicero, and Vergil.

COLLEGE

10. Cicero: *De Senectute*.—The entire essay is read with studies in syntax and exercises in prose composition based upon the text of each lesson. M. MISS PELLETT AND MISS PEEDE.

11. Terence: *Phormio*.—This play, as a specimen of the highest development of Roman comedy, is carefully studied with regard to morals, composition, presentation, etc. Attention is also given to vocabulary, metrical treatment, and ante-classical forms and constructions. M. MRS. BEESON AND MISS PEEDE.

12. Livy.—The twenty-first book and a large part of the twenty-second, describing Hannibal's expedition against Rome up to Cannae, are read, with accompanying studies in literary style and syntax and exercises in prose composition, based in each case upon the portion of text assigned in each lesson. Mj. MRS. BEESON AND MISS PEEDE.

13. Horace: Odes, Books i-iii.—This course includes: commentary upon the details of each ode, syntactical, historical, illustrative, etc.; translation, analysis of thought, and general interpretation; and a study of the metrical form. A list of general topics, material for the study of which is to be found in the odes, is presented at the outset, and the student is expected to select one of these for his especial study. Mj. PROFESSOR MILLER.

14. The Latin Subjunctive.—The course presents a systematic treatment of the subjunctive, according to the latest scientific theories. The development of the various uses is discussed, and all the forms found in preparatory Caesar or Cicero are classified. The student may choose to classify the forms either in Caesar or in Cicero, or in such a combination of the two as shall be equivalent in amount to either. The course is intended primarily for teachers. Mj. MISS PELLETT AND MISS PEEDE.

15. Advanced Prose Composition.—The course offers to teachers and others an opportunity to perfect themselves in Latin syntax, and sentence and paragraph structure. The exercises are graded from simple passages in the style of Caesar to more difficult extracts in the style of Cicero. Mj. ASSISTANT PROFESSOR BONNER.

16. Plautus.—

A. *Captivi*.—This course will deal especially with the linguistic side of Plautus. The vocabulary and scansion will be studied and ante-classical forms and constructions noted. Good idiomatic translation will be required. M.

B. *Trinummus*.—Here the literary side will be emphasized. The course will deal especially with Plautus' style, plot, and delineation of character. As in the first minor, much attention will be paid to translation. M. MRS. BEESON AND MISS PEEDE.

17. Tacitus: *Agricola* and *Germania*.—In the reading of these works both their historical importance and their literary merits are brought out. The course is an introduction to the language and style of Tacitus. Mj. ASSISTANT PROFESSOR BEESON.

18. Cicero: *Epistulae*.—A study of the character and career of Cicero from the evidence afforded by the material contained in one hundred selected letters and from supplementary historical and biographical sources. The course also deals with the peculiarities of epistolary Latin and with the general subject of letter-writing in ancient Rome. Mj. MRS. BEESON AND MISS PEEDE.

19. Ovid.—Selections from the *Epistulae*, *Amores*, *Fasti*, *Metamorphoses*, and *Tristia*. The object of the course is to make a general study of the life and works of Ovid and of his place in Roman literature. (Informal.) Mj. PROFESSOR MILLER.

20. Seneca: The Tragedies.—The tragedies of Seneca will be studied for their style, as characteristic of the period, and their content; they will be compared with the corresponding Greek dramas, and their influence upon English drama will be touched upon. Three plays will be read from the Latin text, and the remainder from an English translation. (Informal.) Mj. PROFESSOR MILLER.

21. Horace: Satires and Epistles.—Selected satires and epistles are carefully read and analyzed, with particular regard to argument, character portrayal, style, and their place in literature. (Informal.) Mj. PROFESSOR MILLER.

22. Horace and Persius: Satires.—A brief review of the predecessors of Horace in the field of satire, a reading of selected satires of Horace and Persius, with a study of the characteristic features of each. (Informal.) Mj. PROFESSOR MILLER.

23. Topical Studies in the Works of Vergil.—This course presupposes a considerable familiarity with Vergil on the part of the student. It is not a reading course, but the *Eclogues*, *Georgics*, and particularly the *Aeneid* will be the field of investigation under various topics relating to different objects of study in the works of this author. A list of topics will be presented to the student, of which the following are typical: "Vergil's Verse and Its Metrical Peculiarities;" "Poetic Constructions in Vergil;" "Vergil as a Poet of Nature;" "The Aeneid as a National Epic;" "Vergil's Use of Metaphor and Simile." The student will be expected to select a certain number of these topics and, with them in mind, to go through the works of Vergil under direction of the instructor, collect all material bearing upon them, and present his results in finished form. The instructor will at all times furnish such aid as may be necessary and will criticize the results. (Informal.) Mj. PROFESSOR MILLER.

24. Roman Conception of the Immortality of the Soul.—This course is the study of a topic, and is based for material upon a variety of authors: Cicero's *Tusculan Disputations*, i, *De Senectute*, *De Amicitia*, *Epistulae*; Vergil's *Aeneid*, Book vi; Horace's selected odes; Ovid, Seneca, Persius, etc. (Informal.) Mj. PROFESSOR MILLER.

25. Training Course for Teachers.—The object of the course is to give the teacher working alone and often at a distance from authorities, an opportunity to appeal for assistance and advice along any lines connected with his teaching of Latin. Naturally there are some subjects which nearly all teachers find it profitable to take up in a somewhat formal way, e. g., pronunciation, translation, metrical reading, composition, etc. In addition to these, each teacher will have his own problems to discuss. The course is designed to meet these general and individual needs. (Informal.) Mj. PROFESSOR MILLER.

Members of the Latin Department will endeavor to arrange informal courses for students who are able to do work of an advanced nature, whenever practicable.

XIII. ROMANCE LANGUAGES AND LITERATURES

1. Elementary French.—In two majors is offered the equivalent of the first year of high-school work in French. The writing of French is required from the beginning.

A. This course is designed to acquaint the student with the essentials of French grammar, to enable him to turn short English sentences into idiomatic French, and to translate easy French at sight. It will consist of progressive exercises on the elements of grammar, drill on verbs, the writing of French sentences, translation of easy French into English and the free reproduction of the French stories read. Mj.

B. Reviews, and extends the work on French verbs, studies the complete French grammar, and affords practice in French composition. Several short stories, a modern novel, and a text of modern history will be read in A and B together. Mj. ASSISTANT PROFESSOR NEFF.

2. Intermediate French.—This is largely a language and drill course, and is intended to review inductively the grammar work of the preceding course. It includes the reading of modern short stories and comedies, practice in composition, and especially work in French synonyms designed to increase the vocabulary. The work is largely conducted in French. Mj. ASSISTANT PROFESSOR NEFF.

3. Advanced French.—Idioms, synonyms, diction; (a) systematic review of elementary French grammar; (b) syntax; (c) reading: Mérimée, *La Chronique de Charles IX*; (d) composition based on the reading. Prerequisite: course 2. Mj. MR. DAVID.

4. French Reading.—(A. *Modern Novels*, or B. *Modern Dramas*.)

A. *Modern Novels*.—Anatole France, *Le Crime de Sylvestre Bonnard*; Honoré de Balzac, *Eugénie Grandet*; George Sand, *La Mare au Diable*. Criticism of the novel. Prerequisite: course 3. Mj.

B. *Modern Dramas*.—V. Hugo, *Hernani*; E. Augier, *Le Gendre de M. Poirier*; A. Dumas fils, *La Question d'Argent*; E. Rostand, *Cyrano de Bergerac*. Criticism of the drama. Prerequisite: course 3. Mj. MR. DAVID.

5. Advanced French Reading.—(A. *Modern Dramas and Lyrics*, or B. *Modern Novels and Lyrics*.)

A. *Modern Dramas and Lyrics*.—The work will be based on the dramas of 4 B and selections from the lyric poets, especially Chénier, Lamartine, Musset, Victor Hugo; versification; criticism of lyric poetry. Prerequisite: course 4 A. Mj.

B. *Modern Novels and Lyrics*.—The work will be based on the novels of 4 A and selections from the lyric poets, especially Chénier, Lamartine, Musset, Victor Hugo; versification; criticism of lyric poetry. Prerequisite: course 4 B. Mj. MR. DAVID.

NOTE.—If A has been chosen in course 4, A of course 5 must be chosen; if B of course 4, B of course 5 must be chosen.

6. Molière and the French Comedy in the Seventeenth and Eighteenth Centuries.—

A. *Molière and his Contemporaries*. (17th c.) Mj.

B. *Molière's Successors*. (18th c.) Mj.

These two courses will include a study of the lives of the principal authors, their influence on the theater, with intensive study of the following plays: (a) Corneille *Le Menteur*; Molière, *Les Précieuses Ridicules*, *Tartuffe*, *Le Misanthrope*, *L'Avare*, *La Critique de l'Ecole des Femmes*, *Le Bourgeois Gentilhomme*, *Les Fourberies de Scapin*, *Don Juan*, *Les Femmes Savantes*, *Le Malade Imaginaire*. (b) Regnard, *Le Légataire Universel*, *Le Joueur*, *Les Folies Amoureuses*; Lesage, *Turcaret*; Marivaux, *Le Jeu de l'Amour et du Hasard*, *Le Legs*, *L'Epreuve*, *Les Fausses Confidences*; Destouches, *Le Philosophe Marié*; Gresset, *Le Méchant*; Beaumarchais, *Le Barbier de Séville*, *Le Mariage de Figaro*. This is intended to familiarize the student with the masterpieces of classical comedy. Constant comparison will be made between the language of these writers and that of today, and the most unusual constructions will receive consideration. The work is conducted wholly in French. Prerequisite: the preceding 6 majors of the Junior College or their equivalent. MR. DAVID.

7. Molière.—A critical study of all the plays of the great writer. All the reports must be written in French. This secures to the student a thorough course in advanced French composition as well as a comprehensive knowledge of Molière's work. Prerequisite: 9 majors of French. Mj. MR. DAVID.

8. Old French: Elementary Course.—The importance of some historical knowledge of French as a part of the teacher's equipment is now generally recognized. Old French is also an indispensable language for research in the modern literatures. This course corresponds to course 45 in residence and may be taken to advantage by students looking forward to resident work. A good knowledge of modern French is necessary, and also some knowledge of German and Latin. Texts: *La Chanson de Roland*; *Aucassin et Nicolette*; *Erec et Enide*; *La Représentation d'Adam*. For reference: Nyrop, *Grammaire historique de la Langue française*, Vols. I–III. Mj. ASSOCIATE PROFESSOR JENKINS.

9. Elementary Spanish.—The object of this course is to give the student a mastery of the essential principles of Spanish grammar. A textbook containing numerous practical exercises is used, and about a hundred pages of easy prose is carefully studied, with constant references to the grammar, and exercises in composition based upon the reading. Mj. MISS ENKE.

10. Modern Spanish Novels and Dramas.—This is a course in the careful reading of several modern works, including *La Familia de Alvarado* by Fernán Caballero, *José* by Palacio Valdés, and *Guzmán el Bueno* by Gil y Zárate. The course is intended to fit students for the appreciative reading of the best modern Spanish literature. Attention is constantly directed to points of syntax, idiomatic constructions, and synonyms, and each lesson contains a paragraph in English, based upon the reading, for translation into Spanish. Prerequisite: course 9 or its equivalent. Mj. MISS ENKE.

11. Spanish Prose Composition.—This course is designed to give the student a practical command of Spanish as a medium of expression. It may be varied to adapt it to the needs of the student, now tending more to commercial forms of composition, now to those forms used in literature or by the traveler. Prerequisite: course 9 or its equivalent. Mj. MISS ENKE.

12. Don Quixote.—This is mainly an interpretative and critical reading course, embracing the first fourteen chapters of the first part and the first ten chapters of the second part of "Don Quixote." The life of Cervantes and the literary movement of his time will be noticed. In the reading, the peculiarities of syntax, style, and diction, as compared with later Spanish, will be studied. A bibliography of the more important works will be given, enabling the student who may wish to make a more extensive study of the author to do so. Prerequisite: course 10 or its equivalent. Mj. MISS ENKE.

13. Elementary Italian.—The aim of this course is to ground the student in the essential grammar of the language, and to equip him with a vocabulary which will enable him to read simple Italian prose. Mj. DR. CIPRIANI.

14. Advanced Italian.—Advanced courses in Italian will be arranged suited to the student's purposes and proficiency. The student must satisfy the instructor of his ability to enter upon the course proposed. (Informal.) Mj. DR. CIPRIANI.

Members of the Romance Department will endeavor to arrange informal courses for students who are able to do work of an advanced nature, whenever practicable.

XIV. GERMANIC LANGUAGES AND LITERATURES

1. Elementary German.—In two majors is offered the equivalent of the first year of high-school work in German. The writing of German is required from the beginning.

A. This course aims to ground the student in the essentials of German grammar through the reading of easy idiomatic German and exercises in which special attention is given to the construction of the verb, noun, and adjective. Mj.

B. Continues and extends A to include the passive voice and the subjunctive, and calls for extensive reading of easy prose. Mj. DR. VON NOÉ.

2. Intermediate German.—Devoted primarily to the reading of easy modern prose, and incidentally to a rapid review of elementary German grammar. The text read will always serve as the drill-ground for grammar work. Attention will be directed constantly to German idiom, and from time to time the student will be required to reproduce in German what he has read. In the composition work emphasis will be laid upon word order and sentence structure, the knowledge of which is essential to the proper appreciation of the language. Mj. DR. GRONOW.

3. Review of Elementary German Grammar and Syntax.—This course presupposes a previous knowledge of German equivalent to that afforded by courses 1 and 2. It is interpolated here in the regular sequence and is intended for those who for any reason wish to make a brief systematic review of grammar and syntax, and consists of translation and other exercises based on short German stories, and of a limited number of original compositions embodying the principles reviewed. It will appeal especially (1) to students who desire to renew their acquaintance with the fundamentals preparatory to further study in the language; (2) to many German-Americans, and to those who have acquired their knowledge of the tongue by some natural method; (3) to candidates for the Ph.D. degree who are required to pass a preliminary examination in German. Mj. DR. KUEFFNER.

4. Intermediate Prose Composition.—Translation of easy idiomatic English prose into German, intended to lead the student to appreciate the equivalence of English and German idiom; letter writing; *freie reproduction*. Mj. DR. GRONOW.

5. German Idioms and Synonyms.—The course comprises the study of (1) the method of word formation; (2) grammatical idioms; (3) synonyms, together with a thorough review of syntax. Attention is given to German-English cognates. Composition based upon selected modern German prose affords the basis of instruction. The course will be helpful to those who teach the language in secondary schools. Mj. DR. GRONOW.

6. Modern German Dramas.—This is primarily a reading course corresponding to course 6 in residence. It aims at the acquisition of the foundations of idiomatic German on the basis of the language of the dramas read. A short theme in German on the subject chosen from the reading is required with each lesson. Mj. DR. VON NOÉ.

7. Scientific German.—The aim of the course is to enable the student to read German scientific prose. It has the same prerequisites as the preceding course. Short exercises in German composition connected with the text are required. Mj. DR. VON NOÉ.

8. The German Short Story.—The development of the short story (*Novelle*) into an art-form is one of the most interesting phenomena of nineteenth-century literature. The study of this evolution in Germany, together with the various forms of the short story extant—the dramatic, the lyric, the historical, the social, etc.—is the object of this course. The student will read, under guidance, selected stories of Tieck, Hoffmann, Riehl, Auerbach, Rosegger, Meyer, Keller, Fontane, Liliencron, and others. Reports and essays (in German) will be required. This course may be taken by anyone who has a fair reading and writing knowledge of German. Mj. DR. VON KLENZE.

9. Deutsche Aufsätze und Stilübungen.—An advanced course in composition corresponding to course 11 in residence. It includes a study of masterpieces of the best German stylists and the criticism and development of graded themes. The theme-subjects deal with German life, history, and literature. The aim of the course is to develop the student's ability in essay writing. Of special value to teachers. Mj. DR. VON NOÉ.

10. Deutscher Satzbau und Stil.—A sequent to "Deutsche Aufsätze und Stilübungen." The aim of the work is to develop an instinct for idiom and an active sense of the niceties of style by discussing passages from great stylists of the nineteenth century and by German essay writing. It corresponds to course 101 in residence. Mj. DR. VON NOÉ.

11. Outline History of German Literature.

A. Includes a survey of the development of German literature from the scanty remnants of the earliest period of tribal migrations, heroic romances, and early ballads, through the first period of efflorescence—the twelfth and thirteenth centuries with their troubadours and national epics; the period of humanism and the reformation, up to the second period of efflorescence—the eighteenth century. Mj.

B. Aims at a more detailed study of prominent writers of the eighteenth century; the Romantic Movement with its best representatives, and the most characteristic novelists, dramatists, and lyricists of the nineteenth century. A is not prerequisite to B. Mj. DR. VON KLENZE.

NOTE.—Prerequisites for both A and B: Students taking either one of these courses must have a good reading knowledge of German as well as the ability to write with some ease. It is advisable that at least one of the courses in some special field of German literature as "The Short Story," or "Goethe's Lyrics," or their equivalents, should precede this course.

12. Goethe's Lyric Poetry as an Exponent of His Life.—No writer so minutely reflects his moral and intellectual growth in his lyric poetry as does Goethe. A chronological study of his lyrics affords, therefore, a subtle appreciation of his whole individuality. The student will pursue a study of the standard biographies of Goethe, together with his letters and autobiographical writings, while at the same time reading carefully the lyrics written during each period of his life. Essays are required throughout the course. Mj. DR. VON KLENZE.

13. Friedrich Hebbel: A Study of Modern German Drama.—Hebbel was one of the most powerful individualities of the nineteenth century and one of the most significant figures of German literature. His drama is the expression of new principles in dramatic literature, which many years later appeared in modified form in the social dramas of Ibsen. Mj. DR. VON KLENZE.

14. Gothic.—A consideration of Gothic phonology, morphology, and syntax in connection with the reading of selections from the Bible translation of Wulfila. Intended as a review course or for those who have had philological training. Mj. ASSOCIATE PROFESSOR WOOD.

15. Old High German.—The reading of selections from Braune's *Althochdeutsches Lesebuch*, with reference to the same author's *Abriss der althochdeutschen Grammatik*. This course is a natural sequent of course 14. Prerequisite: course 14 or its equivalent. Mj. ASSOCIATE PROFESSOR WOOD.

16. Old Saxon.—The work will be based on Holthausen's *Altsächsisches Elementarbuch*. Open to those who have had courses 14 and 15 or their equivalent. Mj. ASSOCIATE PROFESSOR WOOD.

SCHOOL OF EDUCATION

17. The Teaching of German in Secondary Schools.—The method of teaching German in high schools and academies has undergone radical changes within the last few years. The object of this course is (1) to make the teacher acquainted with the new methods and their application to the teaching of pronunciation, grammar, composition, reading, and translation; (2) to furnish him an opportunity to discuss his particular problems. Mj. DR. GRONOW.

18. The Teaching of German Literature.—A discussion of the choice of texts, use of literary commentaries, value of student reports upon supplementary reading, and the use of oral quizzes upon prescribed topics. This and similar theroretical discussion is undertaken in connection with the reading of selections from the German classics chosen from the lists recommended for study in each year of the high school and college. Instruction will be conducted entirely in German. Mj. DR. VON NOÉ.

Members of the Germanic Department will endeavor to arrange informal courses for students who are able to do work of an advanced nature, whenever practicable.

NOTE.—Related courses will be found in Department XVI.

XV. THE ENGLISH LANGUAGE AND LITERATURE, AND RHETORIC

NOTE.—Courses 1, 2, and 3 do not command credit but serve to prepare one for the regular entrance examination in English, which yields three units of admission credit.

ELEMENTARY

1. English Grammar.—A course in practical English grammar, assuming no technical knowledge of the subject, and intended for students who need instruction or review in the fundamental principles of the language, especially with relation to the correct combination of words in sentences. In many cases the course will be needed as preparation for the following composition courses. The work submitted to the instructor will consist mainly in the correction of faulty constructions, the analysis of sentences, and the writing of original sentences to illustrate the principles discussed in the required textbook. Mj. ASSOCIATE PROFESSOR MARSH AND MR. CHERINGTON.

ACADEMY

2. Preparatory English Composition.—

A. A very simple and elementary introduction to English composition intended mainly for the following classes of students: (1) those who have had no formal training in composition; (2) foreigners with some knowledge of grammar but without much experience in writing the language; (3) any who are not properly prepared for a more advanced course. The work will be roughly equivalent to that in composition required in the first two years of a good high school, consisting in the writing of simple themes based mainly on the student's own experience and observation, and the preparation of exercises illustrating the simpler rhetorical principles. Mj.

B. A more advanced course than the foregoing, substantially equivalent to the composition work of the last two years in a good high school. Students who successfully complete this course should have no difficulty in passing the ordinary college-entrance examination in English composition. Teachers in secondary schools may find the course helpful in their work. Business and professional men whose early training has been deficient can gain valuable experience in practical composition from this course or the foregoing according to the extent of the deficiency. The work consists of exercises illustrating all of the main principles of rhetoric, and themes of a more difficult type than those asked in course A. Mj. ASSOCIATE PROFESSOR MARSH AND MR. CHERINGTON.

3. Preparatory English Literature.—The instruction will be based from year to year upon the standard requirements in English literature for admission to college,

and students who successfully complete the course should have no difficulty in passing the entrance examination. The aim, however, is to make the course valuable not only to such students, but also (1) to teachers of English in preparatory schools, and (2) to all persons who wish to take up, either for the first time or by way of review, the more simple and concrete phases of the study of literature. Those who wish the entire high-school work in English literature should register for the two courses in succession; those who wish to take the work by way of review, or to obtain help in methods of teaching the masterpieces may register for course B only.

A. This course will cover approximately the work in English literature of the first two years of the high school and will take up the study of the simpler masterpieces. Mj.

B. This course will cover approximately the work of the third and fourth years of the high-school curriculum and will take up the study of the more difficult and complicated masterpieces included in the college entrance requirements. Mj. MRS. MOORE.

COLLEGE

4. **English I.**—This is designed to be a full equivalent of English 1 (the first course in English composition and rhetoric required of all students in residence) and commands corresponding credit. It presupposes the ordinary training in composition received in a good high school, and represented in a general way by the preceding courses. More detailed study of the principles of rhetoric, as presented in a more advanced textbook, is made; and a higher standard of theme work, on a variety of topics usually chosen (subject to certain limitations) by the student himself, is expected. The emphasis throughout is placed upon writing of the most practical sort. Mj. ASSOCIATE PROFESSOR MARSH AND MR. BRYAN.

5. **English¹ III.**—This course is designed to be a full equivalent of English 3 (the second course in English rhetoric and composition required of all students in residence) and commands corresponding credit. The course aims (1) to give training in structure, and (2) to give instruction and practice in the four forms of composition—exposition, argumentation, description, and narration. To these ends the emphasis is laid on exposition and argumentation, textbooks are required, lesson papers must be submitted, and a final examination taken. The written work, aside from the foregoing, will consist of five long themes each from 1500 to 3000 words in length, and ten short themes of from 100 to 200 words each. Admission to the course may be obtained by passing creditably "English I," or by submitting to the instructor an original exposition or argument showing ability. Mj. ASSISTANT PROFESSOR FLINT AND MR. HULBERT.

6. **English IV.**—

A. *Expository—Argumentative.*—This course gives a more detailed study of exposition and argument than is afforded by "English III." The work consists of (1) the writing of papers on the theory of these forms of composition as set forth in texts used, and (2) the writing of two expositions, two briefs, and two arguments. Mj.

B. *Descriptive—Narrative.*—In this course the descriptive study is incidental to the narrative. The work is based on the reading of six novels and a number of short stories. It consists (1) in the writing of papers on the theory of narrative writing as discussed in a text and illustrated in the novels and stories read, and (2) in the writing of sixteen short themes and four long ones—three of these, short stories. Mj.

C. *Magazine Writing.*¹—This course is devised to meet the needs of those who desire to enter upon magazine writing as a profession. Drill in the following forms, together with some study of their technique, constitutes the work required: (1) book review; (2) editorial; (3) special article. Instruction is *not* given here in the short story form. Mj. MR. GRABO.

NOTE.—Admission may be obtained in one of two ways: (1) by passing creditably "English III;" (2) by submitting to the instructor a manuscript which meets his requirements. University credit will be given on the passing of an examination.

7. **English V.**—This course is intended for persons who have passed creditably some one of the majors of "English IV" and who wish to specialize in some particular form of literary production, e.g., the short story, the special article, etc. There is no

¹ Registrations will be accepted after September 1.

formal instruction in the elements of style but the instructor criticizes the work submitted and the plan of successive themes, offering suggestions as to topics, helpful reading, etc. Persons other than graduates of "English IV" will be admitted upon the submission of manuscripts displaying a technique adequate to the course. Mj. MR. GRABO.

8. The Development of English Literature.—This course is designed to be the full equivalent of course 40 in residence, the first required course in English literature. It introduces the student to the whole range of English literature in a series of connected masterpieces from Beowulf to Tennyson. The aim is not only to give some knowledge of the masterpieces in themselves, but to study their connection in the development of English literature; to observe the way in which the literature of each period has changed and developed into that of the succeeding period; to note what it has taken from the literature which preceded it, and what it has bequeathed to that which followed it. Some attention is given also to tracing a connection between the principal historic events and conditions of each period, and the literature of its own and succeeding periods. The course, as a whole, affords a broad foundation for more detailed and critical study. Mj. MRS. MOORE.

9. An Introduction to American Literature.—A series of studies of American life in American literature. The first few lessons are given over to pre-Revolutionary literature for the purpose of observing the earliest departures from English models and traditions. Chief emphasis is, however, thrown on the poets, essayists, and novelists of the nineteenth century. While the aim of the course is to put the student in the way of obtaining a preliminary acquaintance with the subject as a whole, assigned readings are restricted to selected works of twelve or fifteen representative men of letters, from Irving and Cooper to Lanier and Whitman. Mj. MISS CRANDALL.

NOTE.—For admission to any one of the following courses, course 8 or its equivalent is prerequisite.

10. An Introduction to the Study of Shakspeare.—This course is intended (1) to give a general idea of Shakspeare's part in the great movement of dramatic literature which marks the Elizabethan Age; and (2) to trace the development of his mind and art through a study of typical plays in chronological order. The origin and growth of the drama is briefly outlined, and Shakspeare's relations to his predecessors and contemporaries incidentally indicated. In the study of the dramatist the plays are regarded as an organic whole, forming the stages in a continuous mental growth—a progressive revelation of their author's genius and the variety of his powers. To this end the following plays, typical of the different periods in Shakspeare's life, are critically read, and in the order of their production: *Henry the Fourth*, *As You Like It*, *Othello*, *King Lear*, *Antony and Cleopatra*, and *The Tempest*. For purposes of comparison the student is also required to read *The Two Gentlemen of Verona*, *Richard the Second*, and *Romeo and Juliet*. The course is designed for those in quest of general culture who may not have the opportunity or the time to undertake the more intensive study required in "The Elizabethan Drama." Mj. ASSOCIATE PROFESSOR TROOP.

11. English Literature by Periods.—A series of reading courses, corresponding to courses 42-48 in residence, which cover with some minuteness the history of English literature from the middle of the sixteenth century down to 1892. In each major the work consists mainly in the reading of a large number of representative masterpieces of the period, and the preparation of answers to questions based upon this reading. Textbook work in a literary history of each period is assigned and the lesson sheets furnish much supplementary material, such as bibliographies of the required authors, suggestions for study of their principal works, etc. It is not necessary that the series be taken in chronological order, as each course is complete in itself; but those intending to take the whole series are advised to follow the chronological order. The series as a whole is designed to give first-hand knowledge of the chief masterpieces of modern English literature, excepting only Shakspeare's works, which are treated in special courses.

A. English Literature from 1557 to 1642.—Reading of Spenser (at least one book of *The Faerie Queene* and various shorter poems), Wyatt, Surrey, Sackville, Sidney, Herrick, Milton (minor poems), and other poets; plays by Marlowe, Jonson,

Beaumont and Fletcher, and lesser dramatists both before and after Shakspeare; Ascham's *Schoolmaster*, portions of Lyly's *Euphues* and other works of fiction, Sidney's *Deiſence of Poesie*, Bacon, Raleigh, and Sir Thomas Browne. Mj.

B. *English Literature from 1642 to 1744*.—Reading of representative prose works of Milton, Jeremy Taylor, Isaak Walton, Pepys, Clarendon, Bunyan, Dryden, Addison, Steele, Defoe, and Swift; poems of Milton (four books of *Paradise Lost*, *Samson Agonistes*, etc.) Dryden, Pope, Thomson, and numerous minor poets; plays by Dryden, Otway, Congreve, Wycherley, and other Restoration dramatists. Mj.

C. *English Literature from 1744 to 1798*.—Reading of novels by Richardson, Fielding, Smollett, Sterne, Johnson, Goldsmith, the so-called "Gothic" romancers, and Fanny Burney; miscellaneous prose by Johnson, Goldsmith, Boswell, Gibbon, and Burke; poems by Gray, Collins, Goldsmith, Chatterton, Blake, Cowper, Crabbe, Burns, and others; plays by Goldsmith and Sheridan. Mj.

D. *English Literature from 1798 to 1832*.—Poems by Wordsworth, Coleridge, Southey, Scott, Campbell, Moore, Byron, Shelley, Keats, Hunt, Hood, Landor; novels by Scott and Jane Austen; miscellaneous prose by Coleridge, Lamb, Hazlitt, DeQuincey, the reviewers, etc. Mj.

E. *English Literature from 1832 to 1892*.—Reading of numerous poems by Tennyson, the Brownings, Matthew Arnold, Clough, the Rossettis, Swinburne, Morris, and others; novels by Dickens, Thackeray, Charlotte Brontë, George Eliot, Meredith, Hardy, and Stevenson; miscellaneous prose by Carlyle, Macaulay, Newman, Arnold, Pater, Ruskin, and Stevenson. Mj. ASSOCIATE PROFESSOR MARSH.

Courses A-E (or their equivalents) are required of all candidates for the Doctor's degree in English, and at least four of them (or equivalents) for the Master's degree. Hence, though a year of resident study is required for the Master's degree, students may take these required courses by correspondence and later do more highly specialized work in residence. Graduate credit will be given to properly prepared students, who do creditable work in their recitation papers and pass the final examination given on each course. Students not entitled to graduate credit, moreover, may register for any of the courses, the only prerequisite being course 8 or its equivalent.

12. *The Elizabethan Drama*.—In a series of advanced courses opportunity is given to gain an intimate knowledge of all the plays of Shakspeare and some of the greater plays of his predecessors and his later contemporaries. The plays are studied as *plays*, not as material for philological investigation. The aim is the serious assimilative study of their literary quality, and their dramatic and histrionic value. The pre-existent conditions which made the Elizabethan drama possible, and also the influences which shaped it, are considered in some detail. In courses B, C, and D, devoted to the study of Shakspeare, his plays are read in their chronological order. (Cf. "An Introduction to the Study of Shakspeare.")

A. *Shakspeare's Predecessors*.—In its first part this course deals summarily with the origin of the drama in England, its primitive forms, its development during the Middle Ages, and the social and economic facts upon which it was then based; with the transforming effects, in the seventeenth century, of humanism, and of the advent of a new class of professional players acting in permanent theaters; and with other influences, native, classical, and Italian, which tended to shape the Elizabethan drama. In the second part of the course are studied certain plays of Lyly, Kyd, Marlowe, Peele, Greene, Lodge, and Nashe, whose careers as dramatic writers began before Shakspeare became known as a dramatist. The plays are selected for their importance in the history of the English drama, and for their literary and dramatic value. Mj.

B. *Shakspeare's Plays (1591-1594)*.—In this course are studied *Love's Labour's Lost*, *The Two Gentlemen of Verona*, *A Comedy of Errors*, *Romeo and Juliet*, *Henry the Sixth*, *Richard the Third*, *Richard the Second*, *Titus Andronicus*, *The Merchant of Venice*, and *King John*. A survey is taken of Shakspeare's life, the condition of the stage, and the attitude of the Elizabethans toward it. Mj.

C. *Shakspeare's Plays (1594-1603)*.—This course is concerned with that period of the dramatist's life in which he ultimately reaches the maturity of genius. The plays studied are: *A Midsummer Night's Dream*, *The Taming of the Shrew*, *Henry the Fourth*, *The Merry Wives of Windsor*, *Henry the Fifth*, *Much Ado about Nothing*, *As You Like It*, *Twelfth Night*, *All's Well That Ends Well*, *Julius Caesar*, *Hamlet*,

Troilus and Cressida, and *Measure for Measure*. There is included a consideration of comedy and tragedy as understood by Shakspeare. Mj.

D. *Shakspeare's Plays* (1604-1611).—This course covers the period in which the dramatist dealt with the highest themes of tragedy, and includes also his latest plays: *Othello*, *Macbeth*, *King Lear*, *Timon of Athens*, *Antony and Cleopatra*, *Coriolanus*, *Cymbeline*, *A Winter's Tale*, and *The Tempest*. The work concludes with a review of Shakspeare's closing years, and of his relations to his times. Mj.

E. *Shakspeare's Later Contemporaries*.—Herein is traced the decline of tragedy and the progress of the comedy of manners. The course comprises a study of selected plays of Ben Jonson and the later Elizabethans, Chapman, Dekker, Middleton, Heywood, Beaumont and Fletcher, Massinger, Webster, Ford, and Shirley. (The required plays are all included in the "Mermaid Series.") It aims to familiarize the student with these dramatists individually, to consider their connections with one another and with Shakspeare, and their relations to their times. Some knowledge of the general course of the national history of the first half of the seventeenth century is necessary for an understanding of the causes underlying the decline of the old drama and its end on the closing of the theaters in 1642. Mj. ASSOCIATE PROFESSOR TROOP.

NOTE.—Prerequisite: Course 10 or its equivalent is prerequisite for any one of the above five courses. Any one of them may be taken alone. Students who have completed the majors of course 11 or their equivalents may obtain graduate credit by making arrangements in advance with the instructor.

13. **The Historical Development of English Fiction.**—The historical development of narrative prose fiction in English is traced in outline from the later mediaeval prose romancers and story-tellers to the beginning of the twentieth century. A brief preliminary review of the field of fiction is attempted in the initial lessons—the qualities shared by novelist and poet, the material common to both, the similarities in general construction of the novel and drama; and throughout, the Continental influences are noted, sources inquired into, and the modifications in structure and content of the novel in succeeding periods are indicated. Illustrations of the various aspects and principles of the art of fiction are drawn from the representative works selected.

A. *From Sir Thomas Malory to Oliver Goldsmith*.—In this course one work of each of the following authors is read: Malory, Lyly, Sidney, Lodge, Greene, Nashe, Bunyan, Defoe, Swift, Richardson, Fielding, Smollett, Sterne, and Goldsmith. The character-sketch of the seventeenth century, and as it is developed by Steele and Addison in *The Spectator*, is briefly dealt with, as are other literary forms which contributed to, or tended to shape, the modern novel. Mj.

B. *From Mrs. Radcliffe and Godwin to Stevenson and Kipling*.—Beginning with the reappearance in England of romantic prose fiction—the "School of Terror," or the "Gothic" romance, and the "School of Theory"—doctrinaire or revolutionary, one work of each of the following authors is read: Walpole, Mrs. Radcliffe, Godwin, Fanny Burney, Maria Edgeworth, Jane Austen, Scott, Cooper, Hawthorne, Lytton, Dickens, Thackeray, Kingsley, Trollope, Reade, Charlotte Brontë, George Eliot, Meredith, Hardy, Stevenson, and Kipling. The course concludes with a brief consideration of fiction as affected by the scientific movement of the nineteenth century, particularly by physiology and psychology. Mj. ASSOCIATE PROFESSOR TROOP.

14. **The Works of Robert Browning.**—The work of this "incorrigible optimist" offers unusual problems in subject-matter and in form. The peculiarities of his style, and the varied forms in which he wrote present abundant material for the study of technique, and of general principles of literary art.

A. *Studies in the Early Poems*.—This course gives detailed consideration to the poems published before 1868, thus including much of Browning's most characteristic and suggestive work. M.

B. *"The Ring and the Book" and Dramas*.—M. MRS. MAUDE RADFORD WARREN AND MISS CRANDALL.

15. **Studies in the Poetry of Tennyson.**—The course deals with the most significant works of this representative nineteenth-century poet. Especial attention is given to his place in the development of English poetry, to the characteristic qualities of his verse, and to his close relation to the general currents of thought in his

time. The study includes the early poems, *Maud*, *In Memoriam*, *The Idylls of the King*, and minor poems. M. MRS. MAUDE RADFORD WARREN.

16. **English Essayists of the Nineteenth Century.**—An advanced undergraduate study of six essayists, including a brief preliminary discussion of the appearance in England of the essay, and its development as a literary form. The work is based upon typical essays of Lamb, De Quincey, Macaulay, Carlyle, Ruskin, and Arnold. Newman or Hazlitt may be substituted for De Quincey if desired. The method of study is the biographical and historical, and to a limited extent the philosophical. Emphasis is laid upon the intimate relation of literature to the forces of social life. Mj. ASSOCIATE PROFESSOR TROOP.

17. **American Literature: The Renaissance of New England.**—This course embraces a study of Emerson, Whittier, Longfellow, Lowell, Holmes, and Hawthorne—the representative writers of that period of intellectual activity in New England which roughly corresponds with the first half of the Victorian era. The various ways in which this activity expressed itself—in oratory, scholarship, Unitarianism, transcendentalism, and reform—are incidentally examined in so far as they affected or were affected by these writers. Sufficient attention is given to the general history of American literature to make this period intelligible to the student. Mj. ASSOCIATE PROFESSOR TROOP.

18. **Modern Realistic Fiction.**—This course is designed to present the content and method of a typical group of realistic novels. The following works, or their equivalents, will be read: George Eliot's *Silas Marner*, Hardy's *Tess of the D'Urbervilles*, Ward's *Lady Rose's Daughter*, Howells' *A Modern Instance*, Meredith's *The Egoist*, Tolstoi's *Anna Karenina*, Zola's *L'Assommoir*, Frenssen's *Jörn Uhl*, Barrie's *Tommy and Grizel*, Fogazzaro's *The Patriot*. Mj. MRS. MAUDE RADFORD WARREN.

19. **The Short Story in English and American Literature.**—In connection with a brief résumé of the history of the short story in England and America, students will read, critically, a number of representative stories by Irving, Hawthorne, Poe, Dickens, Bret Harte, Henry James, Page, Cable, Stockton, Davis, Mary E. Wilkins, Hardy, Doyle, Stevenson, Kipling, Hewlett, and others. The critical study will be devoted principally to investigation of the methods by which effectiveness is secured. Mj. ASSOCIATE PROFESSOR MARSH.

20. **The Principles of Literary Criticism.**—This course presents and compares some of the most influential critical tenets; examines the relations of literature to other arts, and the support given to criticism by recent studies in the psychology of artistic production. Mj. MISS CRANDALL.

21. **The Celtic Literary Revival.**—A study in the literature of the modern Celtic revival presupposes some acquaintance with Celtic myth, legend, and romance. The course, therefore, begins with this subject, following with the living folk literature, fairy tales, folk tales and songs, and then passing to the work of the modern poets and dramatists, with a brief sketch of the nature of Celtic influence on English literature. Yeats, Synge, Hyde, Lady Gregory, Ethna Carberry, and other writers will be read. M. MISS CRANDALL.

22. **Elementary Old English.**—Grammar and reading, corresponding to course 21 in residence. Mj. ASSOCIATE PROFESSOR MARSH.

23. **Advanced Old English.**—*Beowulf*.—An informal course in which the whole of the poem is read. Mj. ASSOCIATE PROFESSOR MARSH.

24. **Introduction to Chaucer.**—An elementary course for students who have had no training in Middle English. Along with the reading of selected poems, there will be a study of the main facts regarding Chaucer and his works. Mj. ASSOCIATE PROFESSOR MARSH.

THE SCHOOL OF EDUCATION

25. **The Teaching of English Composition in Secondary Schools.**—This course will include a survey of methods in American and foreign schools, and will outline the problems involved in teaching adolescents the art of literary expression. These problems arise mainly from three circumstances: first, the fact that composition is at the same time a fine art and a tool in every-day business intercourse; second, that like

the teaching of literature it is based on the psychology of adolescence; and third, that it is a most important agent in education, being the readiest medium of self-expression. Mj. MISS CRANDALL.

26. The Teaching of English Literature in Secondary Schools.—This course proposes a definite aim in teaching based on the function of art in education. The main topics involved are the place of literature in general culture, its special relations to adolescence, the psychology of adolescence, the course of study, and methods of study. Mj. MISS CRANDALL.

Note.—Related Courses will be found in Department XVI.

XVI. GENERAL LITERATURE

This Department offers work to two distinct classes of students: (1) those doing graduate work in comparative literature, for whom a knowledge of the original languages and some previous training in literature are indispensable; (2) those doing undergraduate work, who wish to become acquainted with foreign literatures for the purpose of general culture, and for whom a reading knowledge of the original languages, though desirable, is not necessary. The courses presuppose "English I" and "The Development of English Literature" or their equivalent.

1. Masterpieces in World Literature.—This course falls in section C of the Department of General Literature in which literature is treated as general culture rather than specialized study, hence no knowledge of any language other than English is assumed. It will include an outline study of World Literature and the reading of selected masterpieces. As an equivalent to General Literature 1 in residence, it is primarily a college course but it is also admirably adapted to the needs of the general reader. The requirements will include books to be read, and books one should know something about. These will be found in any well-selected library, or may be secured through arrangement with this department. Mj. PROFESSOR MOULTON AND MISS SCHRADER.

2. Milton and Dante.—This advanced undergraduate course comprises the critical study of Milton's *Paradise Lost*, the Epic of Protestantism, and the careful reading (in translation) of Dante's *Divina Comedia*, the Epic of Catholicism. Dante, who interprets all Mediaeval Europe, is the closest analogue of Milton, who represents Puritan England and the whole spirit of Puritanism. They preserve and express in forms of epic poetry the profoundest sentiment and highest spiritual aspirations of their respective ages. To bring out these facts and to present in outline the religious philosophy of each of the poets is the main purpose of this course of study. In the case of the English author considerable attention is given to the form through which the thought reaches the reader, and to the peculiar power which lies in Milton's style. It is presupposed that the student has some knowledge of the nature of poetry in general, of its different varieties, and of the various kinds of rhymes, meters, etc. Mj. ASSOCIATE PROFESSOR TROOP.

3. Studies in Recent Drama.—In the drama produced in England and on the continent since Ibsen began to write, opportunity is offered for the study of some of the most significant and representative literature of our time. This course offers plays by Ibsen, Bjornsen, Sudermann, Hauptmann, D'Annunzio, Phillips, Jones, Pinero, Shaw, Moody, Sardou, Rostand, Echegaray, Yeats, and Maeterlinck. Mj. MRS. MAUDE RADFORD WARREN.

4. Homer and Ancient Tragedy for English Readers.—A reading course in Greek epic and tragedy. This will include a study of the heroes of the Trojan War and of the Argonautic Expedition. Homer's *Iliad* and *Odyssey* will be read; typical tragedies of Euripides, Sophocles, and Aeschylus will be studied with reference to structure and general technique. Vergil's dependence upon Homer and his influence upon mediaeval literature will also be noted. Mj. PROFESSOR MOULTON AND MISS SCHRADER.

5. German Literature (in English).—This course attempts a survey of the principal movements in German Literature from its first appearance to the present day. Representative authors are studied and constant attention is given to the connection of

social and intellectual life with German poetry. Frequent parallels are drawn with corresponding developments in English literature. Mj. DR. VON NOÉ.

6. **Goethe's Life and Works.**—The work of Goethe, who has been called by Matthew Arnold "the greatest poet, the clearest, the largest, most helpful thinker," will be studied mainly from the point of view of its contribution to the world's history of thought and culture. Its relation to the great cultural movements of his age will be studied in detail, and a careful literary analysis will be made of the chief dramas, novels, and lyrics. The work will consist (1) in answering critical and interpretative questions on the text; (2) in writing brief studies on topics suggested by the cultural setting, by lines of thought to be followed through several of Goethe's works, or by comparison with related works in other literatures. Mj. DR. KUEFFNER.

XVII. MATHEMATICS

ELEMENTARY

1. **Complete Arithmetic.**—This course is intended as a review of the general principles of arithmetic. While serving the student, it will be helpful to grade teachers preparing for examination. Part I treats of general number, the four fundamental operations, factoring, fractions, and practical applications of denominate numbers. Part II drills upon the applications of percentage, and actual methods of modern business. Part III considers ratio and proportion, powers and roots, mensuration, and the metric system. Numerous problems are given to illustrate all points. Hamilton's *Complete Arithmetic*. [This course does not command credit.] Mj. ASSISTANT PROFESSOR HOOVER.

ACADEMY

2. **Elementary Algebra.**—

A. This course is designed for beginners and deals in a very simple way with the elementary principles of algebra. It will prove especially helpful to high-school students who have found the subject a difficult one, since special emphasis is laid upon type-forms and modern methods of instruction. The principal topics discussed are: the four fundamental operations of algebra, factoring, and its applications. The work is based upon selections from Milne's *Standard Algebra*. (This course by itself does not command credit.) M.

B. This course presupposes some acquaintance with the subject, and treats of general number, algebraic number, the four fundamental operations, integral algebraic equations, type-forms in multiplication and division, factoring with the usual applications, fractional and literal equations in one unknown number, interpretation of solution of problems, simultaneous linear equations, with solutions of numerous problems and interpretations. Every topic is illustrated by many examples. The theory is thorough and rigorous. Fisher and Schwatt's *Higher Algebra*. Mj.

C. Continues B, taking up irrational numbers, surds, imaginary and complex numbers, quadratic equations, equations leading to quadratics, roots of quadratic equations, adaptation to questions in maxima and minima, equations of higher degree than the second, irrational equations, simultaneous quadratic and higher equations, ratio, proportion, variation, theory of exponents, the progressions. Fisher and Schwatt's *Higher Algebra*. Mj. ASSISTANT PROFESSOR HOOVER.

3. **Plane Geometry.**—The theory is well illustrated by numerous original exercises. The first major comprises the first three books; the second, the remainder of plane geometry. Wentworth's *Plane and Solid Geometry*. (Revised.) DMj. ASSISTANT PROFESSOR HOOVER.

4. **Solid Geometry.**—Here, as in plane geometry, emphasis is laid on exercises calling for original work. Wentworth's *Plane and Solid Geometry*. Mj. ASSISTANT PROFESSOR HOOVER.

COLLEGE

5. **Plane Trigonometry by the Laboratory Method.**—It is one of the tenets of the laboratory method of mathematical instruction that the student shall approach each principle and each problem from at least two of the following standpoints: the graphical (by use of drawings, generally to scale), the analytical (by use of formula),

the arithmetical (by use of tables), and the mechanical (by simple experiments or by appeal to simple physical principles). Experience shows that the total effect of the views from the various angles gives greater mastery than a single view, however clear. At the outset of the course in trigonometry, the graphical and arithmetical views are emphasized. The obvious properties of the graphs (on square-ruled and polar paper) lead naturally to all the fundamental formulae of plane trigonometry. This method is in marked contrast to the current method by which each formula makes its appearance from some unseen source, to be followed by a more or less artificial proof. When the concepts and formulae of trigonometry are thus naturally acquired, the student proceeds to the usual computations and applications as given in a standard text. But graphical computation also is emphasized, first on pedagogical grounds, next for purposes of check, and finally for its intrinsic importance to engineers and others who require fairly accurate, but rapid, solutions. Mj. ASSOCIATE PROFESSOR DICKSON.

6. Plane Trigonometry.—The student is expected to examine the theory of the subject carefully and give evidence of his mastery of it by working numerous examples. Special attention is given to computation in which Hussey's or Bremikers' tables are used. The course covers about the first two hundred pages of the text, Granville's *Plane and Spherical Trigonometry*. For a review and more advanced course in this subject, Chauvenet's text is used (cf. course 7.) Mj. ASSISTANT PROFESSOR HOOVER.

7. Spherical Trigonometry.—The work is based on the latter part of Chauvenet's *Plane and Spherical Trigonometry*. (Informal.) M. ASSISTANT PROFESSOR HOOVER.

8. College Algebra.—This includes chapters on the binomial theorem for a positive integral exponent, logarithms developed to application of tables to computation, compound interest and annuities, in permutations and combinations, probability, variables and limits, infinite series, binomial theorem for any rational exponent, undetermined coefficients, summation of series, exponential and logarithmic series, determinants, and theory of equations, with abundant exercise in the solution of illustrative examples. Fisher and Schwatt's *Higher Algebra*. Mj. ASSISTANT PROFESSOR HOOVER.

9. Plane Analytic Geometry.—The student with good command of the preceding courses secures in this course a control of the elementary processes and principles of the powerful science of analytic geometry—a science of systematic application of algebra and trigonometry to the study of problems of geometry. For beginners, Smith and Gale's *Introduction to Analytical Geometry, Plane and Solid*, is used (Formal). For those having some acquaintance with the science, Loney's (Plane) *Co-ordinate Geometry* (Informal, Mj.) or Fine and Thompson's (Plane and Solid) *Co-ordinate Geometry* (Informal, Mj.) is used. Mj. ASSISTANT PROFESSOR HOOVER.

10. Solid Analytical Geometry.—C. Smith's *Solid Geometry*. (Informal.) Mj. ASSISTANT PROFESSOR HOOVER.

11. Calculus.—This subject is presented in two majors, the first treating of the differential, and the second, of the integral calculus. The fundamentals are carefully studied and find extended and varied application in the selected problems. Osborne's *Differential and Integral Calculus*. DMj. ASSISTANT PROFESSOR HOOVER.

12. Advanced Calculus.—Especial attention is given to the theory. Byerly's *Differential and Integral Calculus* (latest edition). (Informal.) DMj. ASSISTANT PROFESSOR HOOVER.

13. Analytical Mechanics.—An elementary course, requiring a good working knowledge of the previous courses. The main divisions of the subject, statics and dynamics, are well illustrated by typical examples. Bowser's *Analytical Mechanics*. Mj. ASSISTANT PROFESSOR HOOVER.

14. Elements of Theories of Probability and of Least Squares.—In this course enough of the mathematical theory will be given to fit the student to pursue the following course with profit. The fundamental conceptions are carried far enough to put the student in practical possession of the theories of these subjects. Mj. PROFESSOR MYERS AND MR. BRESLICE.

15. The Theory of Errors.—This course requires a fair academic knowledge of enough differential and integral calculus to make clear the meaning and use of the probability-integral. It will have little to do with the theory of probabilities or of least squares further than relates to the discussion of erroneous observational data and the best-known and most practicable methods of eliciting from such data their content of truth. Mj. PROFESSOR MYERS AND MR. BRESLICH.

16. Advanced Theory of Equations.—The earlier part of this course gives a very complete treatment of the theory of equations; the latter part includes determinants, symmetric functions, invariants, transformations, substitutions, and groups. Burnside and Panton's *Theory of Equations*, fifth ed. (Informal.) DMj. ASSISTANT PROFESSOR HOOVER.

17. Differential Equations.—This course presupposes a good working knowledge of Calculus. Johnson's *Differential Equations*. (Informal.) DMj. ASSISTANT PROFESSOR HOOVER.

18. Projective Geometry.—Veblen and Young's *Projective Geometry*. (Informal.) Mj. PROFESSOR MOORE.

19. Introduction to Analysis.—A somewhat critical study of the fundamental elementary notions of Analysis. Hardy's *A Course in Pure Mathematics*; Bromwich's *Infinite Series*. (Informal.) DMj. PROFESSOR MOORE.

GRADUATE

20. History of the Science of Mathematics.—This course is intended to put the student in possession of a knowledge of the most fruitful epochs and of the most salient influences of mathematical history; to make him more keenly appreciative of the fact that his science is and always has been a growing science, to inform him that the attitude of mind exhibited by the works of the great mathematicians is most conducive to progress today; in short, to assist the mathematical student to a more intelligent identifying of himself with those men and movements which are making for mathematical advance at the present time. Mj. PROFESSOR MYERS AND MR. BRESLICH.

21. History of the Teaching of Elementary and Secondary Mathematics.—Special attention is here given to the historic order of evolution of the subject-matter of arithmetic, algebra, geometry, and trigonometry, and to the ideas which, among the various peoples who have contributed to these subjects, have determined the place and function of these subjects, from age to age, in the education of the youth. The work will be conducted from the higher point of view of the teacher and with reference to the meaning, for current teaching of these subjects, of the historic stages through which they have passed to reach their present status in school curricula. Mj. PROFESSOR MYERS AND MR. BRESLICH.

22. Advanced Analytical Geometry.—Charles Smith's *Conic Sections*, with chapters on trilinear co-ordinates, reciprocation, etc. (Informal.) Mj.; or Whitworth's *Modern Analytical Geometry*, limited to the trilinear and quadrilinear notation (Informal, DMj.); or Salmon's *Conic Sections*, extended to include the invariant theory, involution, projection, etc., a standard treatment. (Informal.) DMj. ASSISTANT PROFESSOR HOOVER.

23. Differential Equations.—Forsyth's *Differential Equations*. (Informal.) DMj. ASSISTANT PROFESSOR HOOVER.

24. Spherical Harmonics.—This course gives chief attention to such special forms of partial differential equations as integrate into the standard series and functions called for in advanced studies in heat, light, vibration, electricity, and gravitation. The course will be of special value to students or teachers of mathematics, advanced physics, mechanics, and astronomy, whose mathematical training has not been as extended as it should have been. Emphasis will be laid about equally upon academic and pedagogic phases of study. Practical electricians and engineers of good attainment will find the course especially helpful to them. Mj. PROFESSOR MYERS AND MR. BRESLICH.

25. Theory of Functions of a Real Variable.—Hobson's treatise on the subject will be used. (Informal.) DMj. PROFESSOR MOORE.

26. Theory of Functions of a Complex Variable.—Burkhardt's *Einführung in die Theorie der Analytischen Funktionen*. (Informal.) DMj. PROFESSOR MOORE.

27. Algebra.—Weber's *Lehrbuch der Algebra*. (Informal.) DMj. PROFESSOR MOORE.

28. A Theory of Numbers.—Bachmann's *Zahlentheorie*. (Informal.) Mj. PROFESSOR MOORE.

SCHOOL OF EDUCATION

29. Review Course in Mathematics for the Elementary School.—This is designed primarily for the review and restudy, from the teacher's point of view, of the subject-matter upon which the mathematical work of the elementary schools should be based. It deals largely with the applications of mathematics to quantitative problems and questions of school environment and everyday life. The number work of geography, nature-study, commerce, business, of construction, and of the industries will receive special emphasis. Out of work drawn from these various sources the science of arithmetic will be derived. The bulk of the work will consist in the actual solution of problems drawn from modern life and representing real conditions. The course will be given under the following heads: (1) work in counting, indefinite comparison and measurement, covering the period from Grade I to Grade V, inclusive; (2) work in direct measurement, definite comparison, and ratio, covering the period from Grade III to Grade VII, inclusive; (3) direct and indirect measurement and comparison, covering the period from Grade V to Grade VII, inclusive; (4) observational and experimental geometry; inductive geometry and generalized arithmetic, covering the period from Grade V to Grade X, inclusive. [This course commands School of Education credit only.] Mj. PROFESSOR MYERS AND MR. BRESLICH.

30. Pedagogy of Mathematics of the Elementary Schools.—This course will be based upon the preceding course or its equivalent, and will deal with its educational aspects and pedagogical justifications. While concerning itself chiefly with modern reasons and methods for the teaching of arithmetic, it will not ignore the historical forces and factors out of which the best modern procedure has been evolved. Laboratory and field-work in mathematics teaching will be studied, and the psychological grounds for these means of imparting mathematical knowledge will be recapitulated. The kind and place of elementary geometry and algebra in the grades will be considered. The following synopsis will indicate the nature of the work: (1) correlated, applied, and formal number work in grades I to V; (2) theoretical and practical arithmetic of business, of the industries, of elementary science, and of the builder's trade; (3) such geometry and algebra as the pupil is ready for and as will properly graduate his steps toward the high school; (4) the correlation of these three lines of work into an organic whole for the elementary pupil. Mj. PROFESSOR MYERS AND MR. BRESLICH.

31. The Teaching of Secondary Mathematics.—This course presupposes a good knowledge of high-school geometry and algebra. A knowledge of plane trigonometry is desirable, though not required. The course will deal with the problems of the high-school teacher so far as related to the actual work of the classroom. Considerable work in gathering real material and preparing plans for topics of local, general, scientific, social, or industrial interest will be required. The following summary will show the phases of high-school mathematics teaching to be dealt with: (1) high-school arithmetic, geometry, algebra, and physics taught abreast during the first four years; (2) laboratory work in geometry, algebra, trigonometry, and elementary mechanics during the second and third years; (3) laboratory and field-work in secondary mathematics and sciences, together with much abstract work in the third and fourth years; (4) the correlation of this work into a unified mathematical whole. Mj. PROFESSOR MYERS AND MR. BRESLICH.

32. The Psychology of Number.—The work of this course requires a good knowledge of the subject of arithmetic and some power of abstract thought. Questions having to do with the psychological genesis and growth of the number concept are examined. The psychologic grounds for and against the ideas which have dominated pedagogic method in the elementary mathematics are critically examined. The variable unit conception of number is studied with special care. The purpose of the

course is to make teachers of elementary mathematics clearly conscious of the function of this subject in elementary education, thereby rendering this practice immune from contagion of shallow mechanical devices as methods of training the number faculty of children. Mj. PROFESSOR MYERS AND MR. BRESLICH.

33. The Mathematics of History, Geography, Nature-Study, and Constructive Work for Elementary Schools.—The purpose of this course is to aid teachers of all grades of the elementary schools to gather and organize for use in mathematics the quantitative material of the central subjects. Besides furnishing much problem material, it gives samples of ways to systematize this material to meet the needs of arithmetic both as a science and an art. Without neglecting the mathematical requirements of elementary schools, it shows how to teach the uses of arithmetic and the elements of algebra and geometry in the affairs of everyday life. It is essentially a course on the mathematics of the central subjects of the elementary school. Its aim is to teach elementary school mathematics through its uses, and to assist in unifying the school work. Mj. PROFESSOR MYERS AND MR. BRESLICH.

34. Mathematics for Teachers and Students of Commercial Geography and Industrial History.—The work of this course is based upon commercial geography and industrial history. It deals mainly with comparative studies of the industries and of the industrial products of our nation today with those of former times and of other leading nations. The graphical method is the dominant mathematical procedure. The problems are taken largely from the latest statistical sources for corn, cotton, coal, rice, coffee, etc., and from the bulletins of the United States departments, and from agricultural experiment stations. An important purpose of the course is to furnish numerous exemplifications and suggestions as to ways of using this material in the teaching of mathematics. The course is intended to help both regular grade teachers and special teachers of geography and history, in either elementary or secondary schools, who desire to correlate more closely industrial and commercial studies with the regular mathematical work. Mj. PROFESSOR MYERS AND MR. BRESLICH.

35. Mathematics for Teachers of Handicraft.—This is a course for teachers of either elementary or secondary schools. It will concern itself with a study of the relation and meaning of the work in manual training, domestic science, and drawing and designing to the mathematical work already in the curricula of the public schools. It will assist special teachers of the arts, to relate their work more intelligently and more organically to the all-round work of their pupils. The purpose of the course is to study and to organize mathematical subject-matter from the viewpoint of the arts and technologies. Mj. PROFESSOR MYERS AND MR. BRESLICH.

36. Mathematics for Teachers and Students of Home Economics.—This course is designed for both actual and intending teachers of home economics in either the elementary or secondary school. It presupposes a fair academic knowledge of arithmetic, elementary algebra, and geometry. It covers the following three phases of the professional duty toward mathematical work of teachers of home economics; (1) the modern point of view of the teaching of mathematics in elementary and secondary schools; (2) the educational purposes and grounds that are common to home economics and mathematics in these schools; (3) the best methods of solving and of pedagogically evaluating the mathematical problems that arise in the teaching of home economics in these schools. Some of the sources whence the problems are drawn are cooking, drawing, heating and ventilating houses, chemistry of foods, dietetics, etc. Mj. PROFESSOR MYERS AND MR. BRESLICH.

37. Astronomy for High-School Teachers.—This is a course for high-school teachers who desire to make astronomy a more vital force in secondary education than is possible with a mere textual description of astronomical facts and phenomena. Teachers of all branches of secondary science recognize that the day of mere textbook science is past, and that the reason astronomy is being so generally dropped from the high school is that, as the subject is usually taught, both its scientific and its educational value are very largely lost. This is a course along experimental, observational, and scientific lines. Mj. PROFESSOR MYERS AND MR. BRESLICH.

38. Plane Trigonometry and Surveying with Surveyor's Tape and Extemporized Apparatus.—Most of the problems of elementary surveying will be included in this course. It is to assist teachers of secondary mathematics, who can

expend but little, if any, money for equipment, to vitalize their teaching by introducing into their work such practical applications of the mathematical problems proposed by the class as will make the propositions appeal to the class as presenting real problems needing solution. Most surveying, though ordinarily done with expensive instruments, can be done quite well with a tape and water level. To execute the work in this way makes more mathematical work necessary, but this is not an objection when the prime purpose is mathematical, rather than practical. The few instruments needed for the course may be rented from the University for a small fee. Mj. PROFESSOR MYERS AND MR. BRESLICH.

39. Surveying and Plane Trigonometry Taught Simultaneously.—This is for high-school teachers or for individuals who have had plane geometry and elementary algebra through quadratics. It will be useful for persons who cannot, or do not care to take time enough for a course in trigonometry before beginning with its most common uses. Such and so much trigonometry as is needed to do the work in surveying will be taught when and where the surveying calls for it. The course may be so taken as to count for either one or two majors, according to the quantity of the work done. It will be given only to persons who have access to the use of a transit, engineer's tape, and the customary scales for use in plotting topographic work. Topographic maps must be submitted to the instructor at the expense of the student. Mj or DMj. PROFESSOR MYERS AND MR. BRESLICH.

40. The Teaching of College Algebra, Trigonometry, and Analytics.—A good academic knowledge of these subjects is required for admission to this course. The following topical enumeration will suggest the nature of the questions considered: (1) the purpose of college algebra, trigonometry and analytics in the curriculum of the college; (2) viewed from the teacher's standpoint, (3) viewed from the student's standpoint; (2) method of teaching these subjects as determined by this purpose; (3) the correlation idea as applied to Freshman college mathematics; (4) the laboratory method in Freshman college mathematics; (5) use of graphical work early and all along; (6) applications of these subjects in teaching them; (7) dangers of this teaching becoming too abstract; (8) order and sequence of special topics. Any recent text in each of these subjects will answer. Mj. PROFESSOR MYERS AND MR. BRESLICH.

41. The Teaching of Differential and Integral Calculus.—A good academic acquaintance with these subjects is required for admission into this course. The following topics will indicate the character of the work: (1) teaching calculus through its uses in mathematical physics and mechanics; (2) the historical order of development of the subject: (a) method of exhaustions, (b) method of indivisibles, (c) method of infinitesimals, (d) method of rates; (3) the best conception of the fundamental notions of calculus for beginners; (4) the gradual working-out by the student of the notion of the integral as an anti-derivative, and consequences; (5) notions of the calculus in the high school; (6) graphical calculus. Mj. PROFESSOR MYERS AND MR. BRESLICH.

History of the Teaching of Elementary and Secondary Mathematics.—(Cf. description under Mathematics 21). Mj. PROFESSOR MYERS AND MR. BRESLICH.

History of the Science of Mathematics.—(Cf. description under Mathematics 20.) Mj. PROFESSOR MYERS AND MR. BRESLICH.

The History of Astronomy.—(Cf. description under Astronomy 2). Mj. PROFESSOR MYERS AND MR. BRESLICH.

XVIII. ASTRONOMY

1. Descriptive Astronomy.—An elementary general culture course designed: (1) to furnish an idea of the principles, methods, and results of the science; (2) to show the steps by which the remarkable achievements in it have been attained; and (3) to unfold that extended horizon which astronomy has laid open. This work covers the recent investigations respecting the origin and development of the solar system. Moulton's *Introduction to Astronomy*. (Informal.) Mj. ASSOCIATE PROFESSOR MOULTON AND DR. MACMILLAN.

2. The History of Astronomy.—This is a culture course on the subject for persons who desire to familiarize themselves with the scientific ideas, methods, and

results that have determined scientific progress down to recent times. The history of no science so fully exhibits the complete scientific method as does the history of this oldest, most complete, and most exact of all the sciences. A careful study of it may well constitute a part of a liberal education. It is both stimulating and directly helpful to teachers of high-school science and mathematics. A real basis for much of the high-school mathematics is furnished by supplying the astronomical setting from which it sprang. Mj. PROFESSOR MYERS AND MR. BRESLICH.

3. **Celestial Mechanics.**—A treatment of the dynamics of the solar system, including the contraction theory of the heat of the sun, the attractions of bodies, the two-body problem, the general integrals of motion, the three-body problem, perturbations, and determination of orbits. Moulton's *Introduction to Celestial Mechanics*. Prerequisite: course 11 in mathematics or its equivalent. (Informal.) DMj. ASSOCIATE PROFESSOR MOULTON AND DR. MACMILLAN.

Astronomy for High-School Teachers.—(Cf. description under Mathematics 37.) Mj. PROFESSOR MYERS AND MR. BRESLICH.

XIX. PHYSICS

1. Elementary Physics.—

A. *Mechanics, Sound, and Heat.*—This course corresponds essentially to the first major of course 1 in residence, and is designed to cover the first half-year's work in elementary physics as given in high schools and academies. A text is followed rather closely in the reading lessons, supplemented by new problems and references to other textbooks. The apparatus for the required laboratory work, together with detailed instructions for setting up the apparatus and performing the experiments, are packed in a special case and shipped to the student. Reports on both the reading and laboratory work are submitted by the student for approval or correction. A deposit of \$15 is required for the loan of the apparatus. This will be refunded when the same is returned intact, less expressage and \$3, the loan fee. Mj.

B. *Electricity, Magnetism, and Light.*—A continuation of course A and the equivalent of the second half-year of high-school physics. The plan for text and laboratory work laid down under course A is followed in this course. A deposit of \$15 is required for the loan of apparatus. This will be refunded when the same is returned intact, less expressage and \$3, the loan fee. Mj. ASSOCIATE PROFESSOR MILLIKAN AND MR. MOORE.

NOTE.—Courses A and B together constitute the admission unit in physics.

XX. CHEMISTRY

1. General Inorganic Chemistry (sequel to High-School Chemistry).—

A. This course furnishes a review and a continuation of "Elementary Chemistry" and, together with B, forms the link between the average high-school course in chemistry and the courses in "Qualitative Analysis" which follow. The course includes a study of the metallic and non-metallic elements and their chief compounds. It includes also the study of the laws and principles of the science and their use in explanation of chemical phenomena. The laboratory work, which is an important part of the course, affords opportunity for gaining direct knowledge of the different substances, their modes of manufacture, and their properties. In the choice of illustrations preference is given to the industrial and other applications of chemistry. Prerequisite: a course in inorganic chemistry as ordinarily given in high schools. Mj.

B. Continuation of course A. Mj. PROFESSOR A. SMITH AND DR. MENZIES.

NOTE 1.—These two courses cover the ground of courses 2S and 3S in residence. There are in all 80 lessons. In view of the fact that different students will have different degrees of preparation, however, the number of lessons may be varied by omitting such parts of the subject as the student may already have wholly mastered. In this way the work will be adapted to individual needs, and waste of time and effort will be avoided. For information regarding apparatus see Note 2, below.

2. Qualitative Analysis.—

A. This course aims to present the fundamental methods of qualitative analysis. The analytical reactions of the most important metals and acids are studied. This is

done in such a way that the student learns the art of performing tests, and comes to understand how the methods of separation and detection are based upon a judicious selection and arrangement of these tests. During the course each student analyzes a number of simple salts, and a few mixtures which contain, in each case, only the metals or acids of a single group. Qualitative analysis has been modified by the influence of physical chemistry. The theories of solution and of electrolytic dissociation, and the study of problems in chemical equilibrium have all contributed to furnish analytical chemistry with a scientific foundation which it never possessed before. Course A is planned to develop the subject with this scientific, theoretical foundation and at the same time to give a thorough foundation in *systematic analysis*. Mj.

B. This course continues course A and gives the student practice in the analysis of simple salts, leading up to the analysis of simple mixtures, and, finally, to rather difficult mixtures in which the metals and acids are to be determined. Twenty to twenty-five "unknowns" will be analyzed. Mj.

C. This course is a continuation of courses A and B. The work consists in the analysis of complicated mixtures, and especially in the analysis of minerals and commercial products. Mj. PROFESSOR STIEGLITZ.

NOTE 1.—Prerequisite: These three courses cover the ground of the second year of college work in chemistry. For admission to A a year of general chemistry, including laboratory work, is required.

NOTE 2.—For course IA, students must provide themselves with a balance sensitive to one centigram, with weights 50 gm. to 0.01 gm., and must have access, at least, to a barometer. This apparatus cannot be loaned. Apart from this, however, the apparatus required in "General Inorganic Chemistry" or in "Qualitative Analysis" will not cost over \$15 in either case. It will be sent upon the receipt of a deposit of \$15. When the apparatus is returned the deposit will be refunded, less expressage, breakage, and the loan fee. The loan fee is charged for the use of apparatus, and, in the case of "Qualitative Analysis," for chemicals which are sent in the form of mixtures for analysis. The University is not allowed to supply reagents. The loan fee for each major of "General Inorganic Chemistry" is \$1.50 and for each major of "Qualitative Analysis" \$2.50. When apparatus is not furnished mixtures for analysis cost \$1 per major.

XXI. GEOLOGY

1. **Physiography.**—The course embraces the following general subjects: (1) the form of the earth as a whole, and its relation to other members of the solar system, particularly the sun and the moon, with the consequent changes in the length of day and night and the seasons; (2) the atmosphere—its constitution, temperature, pressure and movements, weather changes and climate; (3) the ocean—its constitution, temperature, movements, geologic activities, coastline phenomena; (4) the land—the geologic processes by which the earth's topography has been chiefly determined, and the varied topographic types which result therefrom, including the study of the origin and development of plains, plateaus, river valleys, mountains, volcanic cones, islands, and seashore features. The effects of man's physical environment upon his distribution, his habits, and his occupations will be continually emphasized. Topographic maps and folios will be studied, and the maps will be used in connection with land forms. The rocks and minerals forming the earth's crust will be treated as fully as the course permits. The last lessons will give the student some opportunity to do individual field-work. Laboratory methods will receive attention throughout the course. The course covers the ground of course 1 offered in residence, and is suited to the needs of those who teach physical geography and physiography in preparatory schools. Mj. DR. CALHOUN.

2. **General Geology.**—This course treats of the leading facts and principles of geology, and the more important events of geological history. It embraces the following general subjects: (1) rocks composing the earth's crust; (2) dynamical geology—the work of atmospheric, aqueous, igneous, and organic agencies treated in a manner to supplement the physiographic studies of course 1; (3) structural geology—the origin and structure of the igneous, metamorphic, and sedimentary rock formations; (4) historical geology—a systematic study of the development of the series of geological formations, with especial reference to the evolution of the North American continent. In this connection will be considered the historical development of organic life-forms. This course covers the ground of course 2 in residence, and is adapted to the needs of teachers in high schools and academies, and also to students not intending to specialize in geology. Course 1, while desirable, is not a prerequisite. Mj. MR. TROWBRIDGE.

3. Economic Geology.—This course is designed to give a general knowledge of the principles governing the formation and occurrence of the more important ores and non-metalliferous deposits, and of the conditions, commercial and otherwise, which limit their exploitation. It covers the study of (1) structural materials—including building stones, clays, limes, mortars, and cements; (2) fuels—including coal, petroleum, and natural gas; (3) principles controlling the deposition of metalliferous ores—including the nature and genesis of ores, the forms of ore bodies, and their relations to the structural features of the containing rocks, the formation of cavities in rocks, underground waters, their composition, circulation, etc.; (4) ores of metals—including iron, copper, lead, zinc, gold, and silver. No attempt will be made to cover the entire field, but typical districts or occurrences will be studied in each case. Incidentally it is hoped the student will learn how to study a district independently, and to that end he will be put in touch with the general literature of the subject. The student is expected to be familiar with the common rocks and minerals. Prerequisite: course 2, or a practical knowledge of geology gained by experience in mining, etc. Mj. ASSOCIATE PROFESSOR EMMONS.

XXI A. GEOGRAPHY

1. General Geography.—The scope of geography, relation to other subjects, the use of globes, models, and maps, the earth as a member of the solar system, a study of land forms, climate, soils, minerals, plants, and animals, with reference to man's distribution and social development. Primarily for teachers of geography in public schools who have not had special training in the subject. Mj. MISS LANIER.

2. Influence of Geography on American History.—A study of the geographic conditions which have influenced the course of American history; their importance as compared with one another, and with non-geographic factors. Mj. MISS LANIER.

XXII. ZOÖLOGY

1. General Zoölogy.—This course consists of laboratory work and reading, and is especially recommended to (1) those desiring a general culture course; (2) teachers; and (3) those looking forward to the study of medicine. The student must have had some high-school training in science, preferably in chemistry or physics, or both. The laboratory work includes (a) a study of the structure, activities, and life-history of one or two unicellular animals (e. g., *Amoeba*, *Paramoecium*); (b) a similar study of one of the higher animals (e. g., the frog, its anatomy, histology, general physiology and development); and (c) a study of karyokinesis (cell-division). All those who are registered in the course in early spring will be required to collect some amphibian eggs. A fee of \$5 will be charged for the materials furnished and loan of slides. Materials furnished are preserved frogs with circulatory system injected, certain reagents not easily obtainable by the student, and an Atlas Science Tablet containing enough note and drawing paper for the course. The slides will illustrate cell-division, histology of the frog, etc. A compound microscope, magnifying 400 times, a hand lens, and a set of dissecting instruments will be needed. The cost of instruments (exclusive of the microscope and hand lens) need not exceed \$3. The cost of books will depend upon the library facilities of the student, but need not in any case exceed \$8. Mj. DR. SHELFORD.

2. General Morphology and Natural History of the Invertebrates.—

A. Protozoa, Porifera, Coelenterata, Platyhelminthes, Nematelminthes, and Echinodermata.—An introduction to the study of invertebrate animals. The work includes laboratory study of the anatomy, physiology, and, as far as possible, of the life-history of typical forms, together with assigned reading. Special emphasis is laid on the economic importance of the animals considered. The fundamental principles of comparative morphology are kept in view throughout the course. In addition to the study of the material furnished (about thirteen forms) the student will be expected to acquaint himself with some of the typical invertebrates of his own locality, and directions for the collection and determination of such forms will be given. The securing of the protozoa studied in the course is a part of the laboratory work, and since protozoa must be cultivated in infusions, which require from one to three or four weeks, the

student should not delay registration until he is ready to begin work. Instructions for making infusions will be sent with the first lessons. Fee for material and loan of more difficult preparations, \$5. Mj.

B. *Mollusca, Annulata, and Anthropoda*.—Continues A. About twelve forms are furnished. Fee for materials, \$5. Mj. DR. SHELFORD.

3. **Advanced Animal Ecology**.—This course is designed for students who have taken "Animal Ecology" in residence and consists chiefly of definite systematic field-work. All the animals of certain habitats will be studied in relation to the genesis of their environment and their relations to each other and to the conditions in which they live. The student must consult the instructor before registering for this course. Prerequisite: Animal Ecology (18 in residence). (Informal.) Mj. DR. SHELFORD.

4. **General Morphology of the Vertebrates**.—An introduction to the study of vertebrate animals, more especially recommended for teachers of zoölogy and those contemplating the study of medicine. The course is elementary, and may profitably follow course 2, though 2 is not prerequisite. The work will consist of assigned readings and dissection. The following type forms will be furnished for dissection: elasmobranch, frog, and necturus. Observation of the life-history and development and metamorphism of the frog will be expected, to be supplemented by readings on the natural history, geographical distribution and classification of both the elasmobranchs and amphibians. The course covers the ground of course 9 offered in residence. (Informal.) Mj. PROFESSOR WILLISTON.

5. **Studies of Birds**.—This course involves laboratory work, field studies, and reading. It is planned especially for teachers but it may also be considered a general culture course for persons interested in birds. The student should be able to identify a few of the common birds in his region at sight, and some training in science including physics and zoölogy is desirable though not necessary. The pigeon is dissected and drawings are made of structures studied. Especial attention is given in this work to adaptive structures and their significance in the life of the bird. The field-work involves a study of a selected topic, and the reading is correlated with the laboratory and field studies. All of the work will be adapted to individual conditions to a certain extent. A set of simple dissecting instruments, costing not over \$2, will be required. The cost of books will depend upon library facilities and individual needs, but need not exceed \$6. Mj. DR. STRONG.

6. **Comparative Osteology**.—A comparative study of the skeleton of typical amphibians, reptiles, birds, and mammals, with especial reference to their relationships, classification, and origin. This course is recommended as preliminary to the general study of the vertebrates, or in preparation for the study of medicine. (Informal.) Mj. PROFESSOR WILLISTON.

XXIV. PHYSIOLOGY

1. **Introductory Physiology**.—The object is to develop an appreciation of the human body. This necessitates a knowledge of its structure and the work of its parts separately and as a whole. Knowledge of this kind is a necessary foundation for advance study such as is demanded of students of medicine, pharmacy, dentistry, and kindred subjects. Some information of this kind should be the possession of every intelligent person for without it effective co-operation in the modern methods of healing and preventing disease as practiced by physicians, is impossible. A further use of physiological facts is their application to methods employed to solve many social problems of today. To teachers such knowledge is especially valuable. It enables them to use and conserve the bodily powers both of themselves and of their pupils and to analyze intelligently deficiencies exhibited by their pupils and so make proper adjustments.

A. This is essentially a summary of the history of food in the body. In the *textbook work* after stating the point of view from which the subject is to be attacked the following topics are discussed: (1) life—theories advanced to explain its nature, conditions necessary for its existence; (2) protoplasm, cells, tissues, organs and their relations and, incidentally, the subject of "division of labor"; (3) blood—its structure,

components, use, and how it gains foods; (4) respiration; (5) digestion and digestive fluids; (6) secretion and absorption. In the *laboratory work*, which will require a microscope for a short time (two weeks or so), directions will be given for the study of (1) blood; (2) properties of foods; (3) the changes which food undergoes under the action of the various digestive fluids. Some knowledge of chemistry is essential. The requisite laboratory equipment and materials will be loaned for a deposit fee of \$10. Mj.

B. Continuing A, study is made of (1) how the blood with its acquired foods is distributed throughout the body (circulation); (2) how the lymph gets to the cells; (3) history of food in the body cells—fat, glycogen, muscle, nerve, and the various tissues, their physiology and metabolism, are discussed; (4) excretion; (5) animal heat; (6) physiology of the brain, cord and special senses—their complicated structure with especial emphasis on the paths of conduction in cord and brain. Directions are given for making the necessary experiments to illustrate physiological methods and the physiology of the organs of circulation, muscle, nerve and the organs of special senses. The requisite laboratory equipment will be loaned for a deposit fee. Mj. ASSISTANT PROFESSOR LINGLE.

XXVII. BOTANY

1. **General Morphology of the Algae and Fungi.**—This course consists of twelve exercises covering the ground of the laboratory work of the twelve weeks' course given at the University. The fifty types studied represent all the main groups of algae and fungi. In connection with a study of the structure, development, and relationships of the various forms, the principal problems considered are: (1) the evolution of the plant body, (2) the origin and evolution of sex, and (3) parasitism, saprophytism and symbiosis. This is pre-eminently a course for beginners, but it is also adapted to the needs of teachers who, though acquainted with the older style of botany, desire an introduction to the more modern phases of the subject. The material in many of the types is sufficient for a class of eight or ten students. An additional fee of \$2.50 is charged for the material and the loan of preparations. The applicant must have access to a compound microscope with a low- and a high-power objective, the latter being a $\frac{1}{8}$, a $\frac{1}{6}$, or a $\frac{1}{4}$, preferably a $\frac{1}{8}$. Mj. ASSISTANT PROFESSOR CHAMBERLAIN.

2. **General Morphology of the Bryophytes and Pteridophytes.**—A course similar to the one in algae and fungi, and requiring that course or its equivalent as a prerequisite. The structure, life-histories, and relationships of the liverworts, mosses, and ferns are studied in characteristic types. The principal problems considered are: (1) the evolution of the sporophyte, (2) the reduction of the gametophyte, (3) heterospory, and (4) alternation of generations. A compound microscope is needed, as in course 1. There are needed for this work skilfully stained preparations, which necessitate a knowledge of microtechnique. Arrangements have been made whereby a limited number may secure a loan of the necessary preparations for a fee of \$2.50 in addition to the fee for material. No one should register without consulting the instructor. Fee for material, \$2.50. Mj. ASSISTANT PROFESSOR CHAMBERLAIN.

3. **General Morphology of the Gymnosperms and Angiosperms.**—A course similar to the two preceding courses, and requiring both of them (or their equivalent) as a prerequisite. Aside from a study of the structure and development of typical forms, the most important features of this course are: a study of spermatogenesis, oogenesis, fertilization, embryology, karyokinesis, and a brief survey of Engler's scheme of classification. A compound microscope is needed as in courses 1 and 2. No one should register without consulting the instructor. Fee for material and loan of the more difficult preparations, \$5. Mj. ASSISTANT PROFESSOR CHAMBERLAIN.

NOTE.—Courses 1, 2, and 3 are designed to give the student a comprehensive view of the structure, development, relationships, and problems of the plant kingdom. These courses form the necessary foundation for all advanced work, whether the advanced work be morphology, physiology, ecology, or taxonomy. They are required of all who make botany their major subject for the Bachelor's degree, and are required of all who make botany either a major or minor for any higher degree. The development of a clear, bold style of scientific drawing receives attention in all of these courses.

4. **Elementary Plant Physiology.**—This course corresponds to course 2 in residence. It aims to give the student a general knowledge of the life-processes of higher plants. The work will consist of experiments illustrating the different topics,

together with assigned reading in a standard textbook. It is adequate to meet the needs of high-school teachers. For the experimental work little more apparatus will be needed than that found in the physical and chemical laboratories of the average high school. A list of required articles will be furnished on application. Reports of both reading and experiments will be called for and will be returned with corrections. Mj. DR. CROCKER.

5. Elementary Plant Ecology.—This course covers essentially the same ground as Coulter's *Plant Relations*, and does not necessarily require previous botanical training though some work in plant analysis and in the study of plant structures is highly desirable. The object of the course is to present to the student the factors which influence the functions, form, and distribution of the common plants of his neighborhood. At first the different forms of leaves, stems, and roots are studied; then the plant is taken as a whole with respect to the advantages it possesses in the struggle for existence because of a particular structure—leaf, root, or stem. Under the subject of stems, the identification of the common trees is required. The work may be carried on chiefly out of doors, and no microscope is needed. Mj. ASSISTANT PROFESSOR COWLES AND MR. FULLER.

6. Ecological Plant Anatomy.—This course is a continuation of course 5 and corresponds to course 30 in residence. It involves a careful study of the absorptive, conductive, synthetic, protective, and storage tissues of plants in relation to their function, with special attention to the variations of structure in so far as they depend upon changes in environment. Students electing this course should have a knowledge of elementary botany and be somewhat familiar with the use of the microscope. A knowledge of German is required of graduate students. The student must have access to a good compound microscope, and if the work is to be done during the winter access to a greenhouse is very desirable. Fee for materials and loan of slides, \$2.50. Mj. ASSISTANT PROFESSOR COWLES AND MR. FULLER.

7. Field Ecology.—This course is designed primarily for those students who have taken courses in ecology, and who desire to pursue further investigations along this line. The work consists very largely of systematic study in the field. A definite region or plant formation may be made the subject of study, or some problem may be selected in the ecology of plant structure or behavior. (Informal.) Mj. ASSISTANT PROFESSOR COWLES.

8. Elementary Forestry.—The principal subjects covered by this course are: (1) the identification of trees by the use of keys and other helps; (2) the life-relations of trees, that is, trees as influenced by light, soil, temperature, wind, animals, and by the struggle for existence; (3) the composition and distribution of the forests of the United States, involving the making of distributional maps; (4) some economic aspects of forestry, namely the proper care and management of the forest studied, including plans for improvement, cuttings for reproduction, and for protection from fire. The field for study will be some limited area of forest to which the student has access. The course is designed as an introduction to work in forestry schools, although it will be equally valuable to those who desire to become acquainted with the life-history of a forest and with the more important forest problems. As the instructor spends a considerable part of each summer in the northern woods beyond regular mail service the student should plan to do as much of the work as possible during the other seasons of the year. Mj. DR. HOWE.

9. Elementary Plant Anatomy.—A study of the tissues and tissue systems of vascular plants from the standpoint of phylogeny. This work is very different from the old anatomy in which facts were presented without any attempt to relate them to each other. The course deals with the morphology and evolution of the vascular system, and is based upon a comparative study of representative juvenile and adult forms of Pteridophytes, Gymnosperms and Angiosperms. A microscope magnifying about four hundred diameters is necessary. An extensive knowledge of micro-technique is not essential. Directions for preparation of material and making of the necessary mounts will be given in the exercises. Fee for material and loan of slides, \$2.50. Mj. DR. LAND.

10. Methods in Plant Histology.—This course deals with the principles and methods of killing, fixing, imbedding, sectioning, staining, and mounting. The student

must have access to a compound microscope magnifying at least 400 diameters, a microtome, and some other apparatus and reagents. A fee of \$2.50 is charged for plant material which is not readily collected at all seasons. No one should register without consulting the instructor. Mj. DR. LAND.

SCHOOL OF EDUCATION

11. Teachers' Course in Botany.¹—This course treats of the leading facts and principles that are involved in presenting botany in secondary schools. The following are some of the topics considered: (1) the place of science, particularly botanical science, in secondary education; (2) a review of botanical material in order to establish a basis of consideration of other elements of the course; (3) study of types of plant life as found in the student's locality; (4) criticism of outlines that are recommended for courses in botany and related biological subjects; (5) outline of a course fitted to the local school needs and botanical environment; (6) consideration of laboratory and field work, apparatus and illustrative material; (7) teacher's helps—reference works, magazines, forestry and agricultural publications, maps, charts, and photographs; (8) reports upon special topics. This course is similar to course 21, School of Education (course 50, Department of Botany). Prerequisite: three majors in botany, or experience through teaching, or practical study, etc. The student should consult the instructor before registering. Mj. ASSOCIATE PROFESSOR CALDWELL.

XXVIII. PATHOLOGY AND BACTERIOLOGY

ACADEMY

1. General Bacteriology and the Relation of Bacteria Yeasts and Molds to the Household, Dairy, Industries, and Agriculture.—This is primarily a culture course designed for those who do not wish to go to the expense of setting up a laboratory, and will consist of: (1) simple experiments at home; (2) examination and description of sealed cultures; (3) writing of themes on assigned subjects; (4) selected readings. This course commands only admission credit. Mj. DR. HEINEMANN.

COLLEGE

2. Bacteriological Methods.—The following subjects will be covered: (1) principles of sterilization; (2) manipulation of the microscope; (3) rôle of bacteria in nature; (4) methods of growing bacteria; (5) methods of staining bacteria; (6) description of bacteria; (7) bacteriology of water and milk. The work will appeal especially to students preparing for the medical profession and to practitioners who wish to renew their knowledge of the subject. The applicant must have access to a compound microscope with a low-power and high-power objective. If all the apparatus is purchased it will cost approximately ten dollars exclusive of the microscope, but many of the parts can be extemporized. A complete set of the apparatus needed, packed ready for shipment, will be supplied for \$12. Course 1 is not prerequisite. Mj. DR. HEINEMANN.

3. Advanced Bacteriology.—A series of courses designed for those interested in some particular branch of bacteriology, e.g., medical, sanitary, agricultural, etc.

A. Yeasts, Molds, and Acetic Acid Bacteria.—A course designed especially for those wishing to prepare themselves for the practical use of bacteriology in fermentation industries. The general methods of studying this class of micro-organisms are studied and practical work proposed. Mj.

B. Water and Milk Analysis.—This course covers the methods of practical water and milk analysis. The methods given are those in use at health and private laboratories, and, though not complete for research, give the student an idea of how research may be prosecuted after these subjects have been mastered. Mj. DR. HEINEMANN.

XXI. OLD TESTAMENT LITERATURE AND INTERPRETATION

(SEE VIII. SEMITIC LANGUAGES AND LITERATURES)

¹ Registrations will be accepted after October 1, 1910.

XLII. NEW TESTAMENT LITERATURE AND INTERPRETATION

(SEE IX. BIBLICAL AND PATRISTIC GREEK)

XLIV. SYSTEMATIC THEOLOGY

1. Outline Course in Systematic Theology.—The course is intended to give a general acquaintance with the field of systematic theology, with especial reference to the problems which are today attracting chief attention. The first half of the course is devoted to a general introduction to the subject; the second half to the content of systematic theology. The contents of textbooks prescribed are to be carefully analyzed and criticized on the basis of questions and topics furnished by the instructor. Mj. ASSOCIATE PROFESSOR G. B. SMITH.

2. Christian Ethics.—This course attempts to set forth the moral aspects of the Christian religious experience. The psychological constitution of the moral disposition of the Christian is investigated. The Christian moral ideal is differentiated from the naturalistic theories of ethics set forth by the Greek philosophers and by modern utilitarian and evolutionist schools, and from the theory of supernatural legalism as exhibited in Judaism. The moral motive power of the Christian, and the fundamental canons of moral judgment are discussed, with suggestions as to the method of determining duty in the various fields of human activity. The course thus serves as an introduction to the study of social ethics from the Christian standpoint. The work will be done on the basis of a syllabus with collateral reading. Mj. ASSOCIATE PROFESSOR G. B. SMITH.

3. Apologetics.—This course is intended to acquaint the student with the general outlines of a defense of Christianity. In the first place the content of Christianity which must be defended is sought on the basis of a historical study of the sources and history of Christianity. The ultimate elements of Christian faith are then defined and justified in the light of modern thought. Questions and topics suggested by the required textbooks are to be discussed in written papers by the student. Prerequisite: courses 4, 5, and 6 in the Department of Philosophy or an equivalent. Mj. ASSOCIATE PROFESSOR G. B. SMITH.

4. The Theological Significance of Leading Movements of Thought in the Nineteenth Century.—The philosophy of Kant and of Hegel, the theological principles of Schleiermacher and of Ritschl, Comte and the positive philosophy, the development of biblical criticism, and the rise of the philosophy of evolution, are the chief topics for study. The problems raised for theology by these movements will be carefully considered. Those taking the course should have access to an adequate library, or should be willing to incur considerable expense for books. Prerequisite: course 3 or an equivalent. (Informal.) DMj. ASSOCIATE PROFESSOR G. B. SMITH.

XLV. CHURCH HISTORY

1. Outlines of Church History.—A complete survey of the whole field of church history from the founding of the church in Jerusalem to the present time, with special emphasis upon the Ancient (100-800 A. D.) and Reformation (1517-1648 A. D.) periods. Some of the most important subjects that will come under investigation are: the conflict of the church with heathenism in the Roman empire; the rise and growth of the papacy; heresies, controversies, and parties within the church; the missionary expansion of the western church; the struggle between the papacy and the empire for supremacy; the rise and progress of the Reformation in Germany, France, Switzerland, England, and Scotland; and the recent development of the Protestant churches in Europe and America. Mj. ASSISTANT PROFESSOR GATES.

2. The Protestant Reformation.—Extent and state of Christendom at the opening of the sixteenth century; new forces that sweep away the old order of things; Zwingli, Luther, Calvin, as expressions of the spirit of the new era; estimate of the movement in its relations to the general historic process. Mj. ASSOCIATE PROFESSOR MONCRIEF.

XLVI. PRACTICAL THEOLOGY

1. The Theory of Preaching.—This course corresponds to residence course 1 and embraces a study of the character and purpose of the sermon, the methods of preparation, and the manner of delivery. The laws of effective popular discourse are studied inductively in connection with the preparation of sermons by the student. Mj. PROFESSOR SOARES.

2. Survey Course in Religious Education.—An endeavor will be made to acquaint the student with the very significant field of religious education now receiving so much attention from all thoughtful workers in church and in general educational lines. In doing this an outline study of child development and the child's religious interests will be made. Such questions as the use of ethics and the application of general educational methods in religious education will be discussed. Special attention will be given to the Sunday school, its equipment, administration, properly graded curriculum, and the training of its teachers. Instruction will be by means of textbooks, topics for special study, reports on local observation of Sunday schools, and questions. The course is intended for pastors, Sunday-school superintendents, and lay workers, and will be adapted to the needs of the individual student. Anyone who has had high-school training can follow the course with profit, but additional work and "Elementary Psychology" as a prerequisite will be required of those who wish University credit for the course. Mj. PROFESSOR SOARES AND DR. EVANS.

NATURAL SCIENCE

SCHOOL OF EDUCATION

1. Elementary Field-Work.—This course is based on out-of-door observations and experiences, and is intended, primarily, for those who wish to be able to identify and interpret the nature materials and phenomena of their region. It embraces the following general topics: (1) a description of the topography and general physical characteristics of the region to be studied; (2) the nature of the soil, subsoil, and rock materials of the area; (3) interpretation of any variations in mineral materials of the area and a study of the elementary principles of soil and rock formation; (4) the forces which have molded the topography of the area as evidenced by soils and rocks; (5) a study of the plant life of the region with reference to identification, distribution into plant societies, and the elementary factors of control in growth and distribution, including seasonal adjustments; (6) identification of animal forms common to the region, their habits and habitats, conditions influencing their habits and distribution, their influence upon the region. Topographic maps, areal maps, and soil maps of the state or United States Geological Survey, should be secured and used whenever available. Unidentified materials should be collected and forwarded for identification. The course covers the ground of course 1 offered in residence. Students are advised not to register for this course during the Winter Quarter. Mj. MR. I. B. MEYERS.

2. Advanced Field-Work.—The work of this course will be directed toward a study of the region, considered as a whole, which lies within convenient reach of the student. It will involve a study of: (1) the physical subdivisions of the area as well as a study of the causes which have given rise to these subdivisions; (2) the physiographic history of the area, its genesis and development; (3) the present content of plant life with reference to the factors which have influenced its entrance, development, and distribution in the area; (4) the present content of animal life, including the factors which have influenced its entrance, development, and distribution in the area. The work presupposes of the student a fair academic knowledge of the principles of physiography, botany, and zoölogy. Mj. MR. I. B. MEYERS.

3. School Gardening and Elementary Agriculture.—The course is intended to include a study of the elementary principles of agriculture necessary to relate the activities of the school to the agricultural life of the country. These activities naturally center about the school garden; hence these studies include reading and experimental work on such topics as (1) the planning and planting of the school and home grounds; (2) the place of the school garden, how it should be planned and related to the other departments of the school; (3) the best trees for school and home grounds and how they

should be planted; (4) the best plants for the school garden and the best methods of culture; (5) propagation from seeds, cuttings, and bulbs, in window boxes, hotbeds, and out of doors; (6) plant-breeding, its scope and results; (7) weeds, their identification and control; (8) window gardening in the school and home; (9) plant-diseases and insect-enemies, their recognition and control; (10) soils, their physical and chemical nature; (11) fertilizers, their composition and use; (12) special problems in agriculture peculiar to the locality which need recognition and discussion in the school. The exercises are of such a nature that they make use of the material which may be available in any particular locality, while suggestions will be offered and assistance given in the study of local problems. Mj. MR. FULLER.

4. Nature-Study according to Seasons.—This course aims to have the student consider the dominant seasonal aspects and activities of the year. It is based upon observations, experiments, records, and interpretations of the successive changes which occur in his region during the year and includes such topics as: (1) observation and record study of the weather; (2) changes induced in the landscape and its life by these weather changes; (3) preparation of plants for winter; (4) plant distribution; (5) food plants; (6) preparation of animals for winter; (7) heating, ventilation, winds; (8) frost, freezing, crystals; (9) Spring, awaking of life. The course is planned primarily for teachers who wish to carry on nature-study observations throughout the school year and to construct a course in nature-study based upon their local environment. Mj. MR. I. B. MEYERS.

DRAWING

The courses **Machine Drawing** and **Architectural Drawing** afford opportunity to begin the study of drawing, and to continue it to a point where a knowledge of higher mathematics—e. g., calculus, mechanics, etc.—conditions further progress. They cover the ground usually included in the first two years of study in the best technological schools. While open to anyone they will appeal especially to those who wish a thorough training in the fundamentals of the science, whether for immediate practical purposes in the office, shop, or classroom, or as a preparation for advanced technical study. One may begin any major of either of these courses for which he is prepared, though in most cases it will be found advisable, if not necessary, to begin with the first major—*Freehand Drawing*. Admission to any major except *Freehand Drawing* will be conditioned on the approval of the instructor in charge, who will base his decision upon a statement and exhibit of previous work. Courses A and B each represent four years' work in the University High School. Course C is intended for those who are qualified for advanced study. The University reserves the right to retain one drawing from the student's set in each major.

The courses offered are:

A. Machine Drawing B. Architectural Drawing C. Descriptive Geometry

The materials required in any major will be sent, express collect, upon receipt of the amount given, which is the lowest that can be quoted for a good quality. The weight of the case and the price of the textbook will enable the student to determine the exact cost of each major.

Material required in courses A1, B1.—Six sheets of Whatman's cold pressed paper, 22×30 inches; 8 sheets of chalk-talk paper, 14×20 inches; 3 Koh-i-noor pencils, 3H; 1 pencil eraser, No. 211; 1 dozen thumb tacks, steel-stamped, $\frac{3}{8}$ inch diameter; 1 box of French charcoal; 1 bottle of fixatif, two-ounce; 1 tin atomizer; 1 box "Star" chalks, six assorted colors; 1 drawing-board, 18×24 inches; and models of different solids.

Material required in courses A 2, 3, 4, 5, 6; B 2, 3, 4, 5, 6; and C 1, 2, 3, 4.—One drawing-board, 18×24 inches; 1 set drawing instruments in folding pocketbook style case, No. 4021; 1 T-square, mahogany, ebony-lined, fixed head, 24 inches; 1 amber triangle, 45°, 8 inches; 1 amber triangle, 30°×60°, 10 inches; 1 triangular boxwood rule, architect's, 12 inches; 1 flat boxwood scale, 6 inches, divided $\frac{1}{10}$ and $\frac{1}{32}$; 1 French amber curve, No. 1; 1 dozen sheets of Whatman's hot pressed paper, 22×30 inches; 6 Koh-i-noor pencils, assorted, 3H and 6H; 1 bottle each of Higgin's carmine, black, and blue ink; 1 dozen thumb tacks, steel-stamped, $\frac{3}{8}$ inches diameter; 1 Faber's pencil-eraser, No. 211; 1 Faber's ink-eraser, No. 2604; 1 Hardtmuth's soft pliable rubber, No. 12; 1 file, 4 inches; 1 pen-holder; 3 ball-pointed pens.

ACADEMY

A. Machine Drawing.—

1. *Freehand Drawing*.—This course gives that thorough training of the eye and hand which is requisite in sketching constructive data and in obtaining measurements. (a) Freehand projection, 4 drawings; (b) model drawing, type-forms, 5 drawings; (c) model drawing, groups, 6 drawings; (d) model drawing, light and shade, 6 drawings; (e) model drawing, color, 5 drawings; (f) model drawing, pen and ink, 4 drawings; (g) home sketch work, 2 drawings in each of the above subjects; in all, 42 drawings. No textbook is required. Cost of materials ready for shipment, \$3.50; weight of package, 15 pounds. Mj. MR. FERSON.

2. *Mechanical Drawing*.—(a) Preparatory work: this will include the use of instruments, laying out, penciling, inking-in, lettering; with practice work to learn accuracy of measurement and of line, 3 drawings. (b) Graphic geometry: this is intended to give the student a mastery of the various geometrical constructions which form the basis of all work in projection, descriptive geometry, and constructive drawing, whether mechanical or architectural; and at the same time to give facility in the use of the instruments 6 drawings. (c) Projection: this will include the projection of points, lines, planes, and solids, 6 drawings; in all, 15 drawings. Textbook: Linus Faunce's *Mechanical Drawing*, \$1.35. Cost of materials ready for shipment, \$15; weight of package, 18 pounds. Prerequisite: course A 1 or its equivalent. Mj. MR. FERSON.

3. *Constructive Drawing*.—(a) Intersections, including conic sections, oblique sections, intersections, and developments, 6 drawings. (b) Shadows: the first angle projection of shadows, 3 drawings. (c) Isometric projections with projections of shadow, 3 drawings. (d) Oblique or cabinet projection, 3 drawings; in all, 15 drawings. Textbook and equipment for this course same as for A 2. Prerequisite: course A 2. Mj. MR. FERSON.

4. *Machine Details*.—This course is intended to familiarize the student with the various parts of machines that have come to be recognized as standards, and which are used in the construction of new machines. Standard sections for materials, fastenings, couplings, bearings, engine details, etc., 10 drawings. Textbook: Low and Bevis' *Manual of Machine Drawing and Design*, postpaid, \$2.50. The equipment for A 2 will suffice for this course also. Prerequisite: courses A 2 and 3. Mj. MR. FERSON.

5. *Gear Construction*.—Spur-gears, bevel, spiral, worm, elliptic, involute and cycloid teeth, hubs, arms, rims, etc., 10 drawings. Textbook: George B. Grant's *Teeth of Gears*, postpaid, \$1.10; equipment, same as for A 2. Prerequisite: courses A 2, 3, and 4. Mj. MR. FERSON.

6. *Shop Drawing*.—(a) Machines from freehand sketches and measurement-details and an assembled drawing of some piece of machinery; (b) tracing and blue, printing. Five drawings with their tracings and blue prints will be accepted for this course; in all, 15 sheets. No textbook is required; equipment, same as for A 2. Prerequisite: courses A 2, 3, 4, and 5. Mj. MR. FERSON.

B. Architectural Drawing.—The architectural course gives the student a good working knowledge of the essentials in architecture: history, the orders, the principles of the designing of houses, office work in rendering, perspective, and detailing, together with tracing and blue-printing.

1. *Freehand Drawing*.—Same as A 1. Mj. MR. FERSON.

2. *Mechanical Drawing*.—Same as A 2. Mj. MR. FERSON.

3. *Constructive Drawing*.—Same as A 3. Mj. MR. FERSON.

4. *Architectural Details*.—(a) "The Orders," 10 drawings; (b) details of architectural construction from measurements, 2 drawings; in all, 12 drawings. Textbooks: Hamlin's *Architectural History*, postpaid, \$1.75; and American Vignola, Part I. "The Orders," postpaid, \$2.00. Equipment for this course, same as for A 2. Prerequisite: courses B 1, 2, and 3. Mj. MR. FERSON.

5. *Architectural Design*.—(a) Domestic plans, from copy, 4 drawings; (b) design of some small building, 4 drawings; (c) tracings and blue prints, 4 tracings with their prints, 8 sheets; in all 16 drawings. Textbooks: same as for B 4; equipment, same as for A 2. Prerequisite: courses B 1, 2, 3, and 4. Mj. MR. FERSON.

6. *Pictorial Architecture*.—(a) Architectural perspective, 3 drawings; (b) architectural rendering in pen and ink, 4 drawings; (c) rendering in color and wash, 4 drawings; in all, 11 drawings. Textbooks; same as for B 4; equipment, same as for A 2. (In preparation.) Prerequisite: courses B 1, 2, 3, 4, and 5. Mj. MR. FERSON.

C. *Descriptive Geometry*.—This course is for those who wish to go into the higher mathematics, but have had no training in the graphic side of the subject. It will consist of:

1. *Mechanical Drawing*.—Same as A 2. Mj. MR. FERSON.
2. *Constructive Drawing*.—Same as A 3. Mj. MR. FERSON.
3. *Theoretical Graphics*.—Problems in points, lines, planes, and straight-surfaced solids; 15 drawings. Textbook: Church's *Descriptive Geometry*, postpaid \$2.65; equipment, same as for A 2. Mj. MR. FERSON.
4. *Practical Graphics*.—Curved and warped surfaces, shades and shadows, developments; 15 drawings. Textbook: same as for C 3; equipment, same as for A 2. Mj. MR. FERSON.

LIBRARY SCIENCE

1. *Technical Methods of Library Science*.—This is an elementary course designed especially for those who are already in library positions, and are unable to leave for resident study. It deals chiefly with cataloguing and classification, with a few general lessons on accessioning, shelf-listing, book-binding, gift work, periodicals, and loan systems. It is felt that no library training can be complete without personal familiarity with the "tools" of the profession and modern methods of work. Hence it is hoped that students taking this course will find it possible later on to supplement the work thus begun, by resident study at some library school. While credit is not given for correspondence courses in any such school, familiarity with library methods will make residence work easier for the student. As preparation two years of college training or its equivalent is required. Practical experience in library work will count much in the applicant's favor. The course consists of twenty-four lessons. Mj. MISS ROBERTSON.

VII. THE ENGLISH THEOLOGICAL SEMINARY

I. GENERAL INFORMATION

The English Theological Seminary of the University of Chicago is intended to meet the needs of students who have not had the advantages of a college education and is open to all denominations of Christians. The applicant must present a ministerial license, or a certificate of ordination, or a statement from the church of which he is a member, approving of his purpose of devoting himself to the Christian ministry or other Christian service. He must also furnish the University, when requested, information concerning his church relations, etc. He will pay the University matriculation fee, \$5, once, and \$3 for each English Theological Seminary course chosen. The reinstatement fee for each of these courses is \$2.

II. COURSES OF INSTRUCTION

NOTE.—No credit toward any degree is allowed for these courses. They count only toward the English Theological Seminary certificate. A description of any of the following courses will be sent on application.

1B. English Composition and Rhetoric	Mj.
2B. Homiletics	Mj.
3B. Outline of Systematic Theology	Mj.
4B. New Testament Times in Palestine	Mj.

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The University of Chicago

FOUNDED BY JOHN D. ROCKEFELLER

A N N O U N C E M E N T S

VOL. XII

JUNE 1912

No. 5

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CORRESPONDENCE-STUDY DEPARTMENT

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ERNEST LYNN TALBERT, PH.D., Extension Assistant in Psychology.

YINCHANG TSENSHAN WANG, A.B., Extension Assistant in Chinese.

MAURICE GOLDSMITH MEHL, S.B., Fellow in Paleontology.

III. GENERAL INFORMATION

Extra-Mural Teaching.—All non-resident work for credit is conducted through the Correspondence-Study Department.

1. Teaching by Correspondence.—Experience has shown that many subjects can be taught successfully by correspondence. *Direction* and *correction* can often be given as effectively in writing as by word of mouth. Obviously self-reliance, initiative, perseverance, accuracy, and kindred qualities are peculiarly encouraged and developed by this method of instruction.

2. Purpose and Constituency.—Through the Correspondence-Study Department the University endeavors to offer as many as possible of the courses given in the classrooms of its different divisions so that those whose formal schooling has been interrupted may continue their studies. Besides contributing to culture, many of the courses, because of their bearing on problems of everyday life, may be turned to immediate practical account. One may choose any course or courses for which he is prepared and begin at any time. The aim is to offer to

anyone anywhere the opportunity of securing helpful and stimulating instruction from specialists.

The work appeals, therefore, to the following classes: (1) students preparing for college or professional schools; (2) college students who are unable to pursue continuous resident study; (3) grammar and high-school teachers who cannot avail themselves of resident instruction; (4) teachers and others who have had a partial college course and wish to work along some special line; (5) instructors in higher institutions who desire assistance in the advanced study of some subject; (6) professional and business men who wish to supplement their training; (7) ministers and Bible students who would fit themselves better to use the Scriptures; (8) parents uncertain how to deal wisely with their children; in short, all who desire a broader knowledge or a more thorough scholarship.

3. Method of Instruction.—Each correspondence course is designed to be equivalent to the corresponding residence course, and contains therefore a definite amount of work. A **major** (Mj) calls for an amount of work which a student in residence would be expected to accomplish in twelve weeks, reciting five hours per week. A **minor** (M) calls for one-half as much work as a major. The resident student who does full work completes three majors every three months, but the correspondence student is allowed from twelve to fifteen months, according as he registers late or early in the quarter (or, if extension of time is granted, of from twenty-four to twenty-seven months) for completing whatever number of major or minor courses he applies for (cf. § 6, *e* and *g*). On the other hand he is permitted to finish courses as rapidly as is consistent with good work. Courses are of two kinds, formal and informal.

a) The *formal* course furnishes a systematic and progressive presentation of the subject in a given number of lessons (cf. § 6, *o*). Each lesson contains: (1) full directions for study, including references to the textbooks by chapter and page; (2) necessary suggestions and assistance; (3) questions to test the student's methods of work as well as his understanding of the ground covered. After preparing for recitation the student writes his answers to the questions and mails them to the instructor, together with any difficulties which may have arisen during his study. This recitation paper is promptly corrected and returned. In like manner every lesson is carefully criticized by the instructor and returned, so that each student receives *personal guidance and instruction* throughout the course.

b) The *informal* course is designed for students who are pursuing studies of an advanced nature. The course is usually arranged between instructor and student to meet the particular needs of the latter. The formal lesson sheet is dispensed with, but the course is carefully outlined by the instructor, and the student is required to present satisfactory evidence that the work is being properly done. This evidence may consist of a number of short papers on special themes, a thesis covering the whole work, or it may partake rather of the nature of ordinary correspondence.

Courses are *formal* when not otherwise indicated.

4. Admission.¹—(*a*) No preliminary examination or proof of previous work is required of applicants for correspondence courses. Before matriculating or

¹ If the student later comes to the University, he must satisfy admission requirements (see *Circular of Information of the Colleges*, pp. 13, 14).

registering a student, however, the University does require certain information and reserves the right to reject applicants, or to recommend other courses than those chosen, if the data furnished on the application blank justify such action. If the applicant is rejected, or the substitution recommended is not accepted by the student, all fees are refunded. The application blank will be supplied upon request. *It should, in every case, accompany the fee for a new course.*

b) A correspondence student whose standing in one of the Colleges or Schools of the University has not been definitely determined is ranked as an *unclassified student*.

5. Recognition for Work.—(a) A certificate is granted for the satisfactory completion of the recitation work in any major or minor course.

b) Admission credit is given for courses covering college-entrance requirements, which are satisfactorily completed and passed by examination.

c) College credit is given for courses of a college grade satisfactorily completed and passed by examination (cf. § 6, b, 1).

d) If the student has a record of residence work in the University, credits gained from correspondence courses are immediately transferred to that record; if not, they are held in the Correspondence-Study Department until the student secures such a record.

e) See also Regulations a) and b).

6. Regulations.—(a) The University of Chicago grants no degree for work done wholly in absence. A *minimum* of nine majors (one year's work) of resident study at the University of Chicago is required of everyone upon whom any degree save the Master's (cf. § 6, b, 2), is conferred.

b) Correspondence courses are accepted as meeting the study requirement for the different degrees as follows: (1) The candidate for a Bachelor's degree (A.B., Ph.B., or S.B.) may do eighteen of the required thirty-six majors of college work, by correspondence. (2) The candidate for the Master's degree (A.M. or S.M.) may not offer correspondence work for any of that required for this degree, inasmuch as the maximum resident time and study requirement for this degree (nine months and eight majors) does not exceed the minimum requirement for any degree. (3) The candidate for the Doctor's degree (Ph.D.) may substitute correspondence for residence work *only* on approval, in advance, of the Head of the Department in which his work lies. Three years of resident graduate study are required for this degree. Very few non-resident students command the necessary library or laboratory facilities for graduate study.

NOTE.—The University of Chicago's Bachelor degree, or its full equivalent, is prerequisite for admission to candidacy for a Master's or Doctor's degree. If a student presents a degree inferior by less than nine (9) majors he can make it equal to the University degree by means of correspondence courses and thus be free to devote his entire time in residence to graduate work (cf. § 6, a).

c) Non-resident work cannot be accepted as affording any time credit for the medical degree.

d) A student may begin a correspondence course at any time in the year.

e) A student will be expected to complete any course or courses *within one year from the end* (i.e., March 23, June 23, September 23, December 23) of the quarter in which he registers.

f) A student who, for any reason, does not report either by lesson or by letter within a period of ninety days, may thereby forfeit his right to further instruction in the course.

g) Extension of time will be granted: (1) *for a period equal to the length of time which a correspondence student spends in resident study at the University of Chicago*, providing due notice is given the secretary and the instructor both at the beginning and the end of such resident study; (2) *for one full year from the date of expiration of the course*, if, on account of sickness or other serious disability, the student has been unable to complete the courses or courses within the prescribed time (cf. § 6, e), providing (a) he secures the consent of the secretary and his instructor, and (b) pays \$4 for each Major course or \$2 for each Minor course he wishes to continue. Private arrangement for extension of time between the student and his instructor cannot be recognized by the Department.

h) In order to secure credit for a correspondence course, the student must pass an examination on it at such time as is most convenient to himself and his instructor, either at the University or, if elsewhere, under supervision which has been approved by the University.

i) During an instructor's vacation a substitute will be provided, or the time for completing the course will be extended.

j) The fee for matriculation in the University (\$5) is required once, at the time of first registration, of each one who has not matriculated in the institution either as a residence or a correspondence student. The fee is general for the whole University.

k) No fee is refunded on account of a student's inability to enter upon or continue a course.

l) The matriculation fee will not be refunded to a student whose application has been accepted (cf. § 4, a).

m) The student must forward with each lesson, postage (or, preferably, a stamped, self-directed envelope) for its return.

n) A student will be required to pay for but one major of a double major (DMj.) course (e.g., Plane Geometry) at a time, unless he applies for both majors.

o) Ordinarily, a major consists of forty, and a minor of twenty lessons; but there may be variations from this number in order to accommodate the work to the requirements of a particular course. Each course represents a definite amount of work (cf. § 3), the number of lessons into which it is divided being incidental.

p) A course announced as a major may not be taken a minor at a time.

q) Each correspondence course is equivalent to the corresponding residence course, and commands credit (cf. § 5) unless definite statement is made to the contrary.

r) All informal courses are majors unless otherwise indicated.

7. Expenses.—(a) All fees are payable in advance.

b) The matriculation fee is \$5 (cf. § 6, j); the tuition fee for *each* minor course is \$8; for one major course, \$16. If a student registers *at the same time* for two major courses the tuition fee is \$30; for three major courses, \$40. No reduction is made for minor courses taken simultaneously. A student registering for English Theological Seminary courses will pay the matriculation fee, \$5, and \$3 for each course taken. The tuition fee includes payment for the instruction sheets received. Textbooks which cannot be borrowed (cf. § 10) must be purchased by the student.

c) The student is required to inclose postage for the return of the lesson-papers (cf. § 6, *m*).

d) Money should be sent in the form of postal or express order or New York or Chicago draft, made payable to the University of Chicago. The Chicago clearing-house charges exchange on all other forms of remittance—15 cents on sums up to \$50.

8. Method of Registration (recapitulated).—(a) File with the secretary of the Correspondence-Study Department a formal application for *each* course desired. The required application blank will be furnished upon request (cf. § 4, *a*).

b) *Forward with the formal application the necessary fees:* (1) \$5 for matriculation, if not matriculated in the University (cf. § 6, *j*); (2) \$8 for each minor course, or \$16, \$30, or \$40, according as one, two, or three major courses are applied for; (3) an additional fee for certain courses in Physics, Chemistry, Zoölogy, Botany, and Bacteriology.

9. Scholarships.¹

CLASS A.—Three scholarships, each yielding tuition in residence for one quarter (\$40), are awarded annually on April 1 to the three students who have begun, completed, and passed the *greatest number* of major correspondence-study courses (but at least four) that represent new advanced work, with a grade of B or better for each course, during the preceding twelve months. If two or more persons finish the same number of majors, the scholarships will be awarded to those whose average grade for the courses in question is highest, and in case of a tie here, in the order in which they finish, beginning with the earliest.

CLASS B.—A scholarship yielding tuition in residence for one quarter (\$40) is awarded to a student for *every four* different major correspondence-study courses that represent new advanced work, which he has begun since April 1, 1904, completed, and passed with a grade of B or better for each course.

10. Books, etc.—Textbooks, maps, etc., which are recommended for use in the various courses may be obtained through the University of Chicago Press, Chicago. Estimates and prices will be furnished on application. *In exceptional cases* some of these books may be borrowed from the University Library. Applications for loans should be addressed to the Librarian of the University of Chicago.

IV. THREE PROGRAMS OF HIGH-SCHOOL WORK

The 15 units¹ of high-school work required for admission to the University must include:

3 units of English.

7 units of subjects in Groups 1-5 (see below), to include *at least* 3 units in a single group and *at least* 2 units in another single group.

5 units of subjects for which credit toward its diploma is given by an approved school.

To fulfil admission requirements most effectively and to leave the maximum freedom of election in college, the following programs are recommended in preparation for college work leading to the different Bachelor degrees:

¹ Scholarships are good for any quarter. Two minors are equivalent to one major. English Theological Seminary courses are excluded from competition.

¹ A unit represents 150 hours of recitation. It is equivalent, as a rule, to two majors.

A.B.	Units	P.H.B.	Units	S.B.	Units
English.....	3	English.....	3	English.....	3
Greek.....	3	One modern language 3 (or 2)		Science.....	3 (or 2)
Latin.....	4	History.....	2 (or 3)	Mathematics.....	2 (or 3)
Mathematics.....	2	Mathematics.....	2	One modern language.....	2
Electives from Groups		Science.....	2	History.....	2
2, 3, and 5.....	3	Electives from Groups 1-5	3	Electives from Groups 1-5.	3
Total.....	15	Total.....	15	Total.....	15

Group 1.—Ancient Languages (Greek and Latin).

Group 2.—Modern Languages other than English (French, German, Spanish, Italian)

Group 3.—History (Ancient, Mediaeval—Modern, English, United States), Civics, Economics.

Group 4.—Mathematics.

Group 5.—Science (Physics, Chemistry, Botany, Zoölogy, General Biology, Physiology, Physiography, General Astronomy).

Any combination of the subjects within each group is permitted but not less than $\frac{1}{2}$ unit of any subject may be offered. Not less than 1 unit of either Physics or Chemistry may be offered. To meet the 2 or the 3 units in a single group requirement in either Group 1 or Group 2, the work offered must all be in *one* language.

Correspondence-Study Courses Which Offer High-School Work¹

	Units
Political Economy—"Bookkeeping"	$\frac{1}{2}$
History—"Outline History of Antiquity to 337 A.D." (A and B)	1
Greek—"Elementary Greek" (A and B)	1
"Xenophon: <i>Anabasis</i> " (A and B)	1
"Homer: <i>Iliad</i> " (A and B)	1
Latin—"Elementary Latin" (A and B)	1
"Caesar: <i>De Bello Gallico</i> " (A, B, and C)	1
"Vergil: <i>Aeneid</i> " (A and B)	1
"Cicero: <i>Orationes</i> " (A and B)	1
French—"Elementary French" (A and B)	1
"Intermediate French" and "Advanced French"	1
Spanish—"Elementary Spanish" and "Intermediate Spanish"	1
German—"Elementary German" (A and B)	1
"Intermediate German" and "Intermediate Prose Composition"	1
"German Idioms and Synonyms" and "Modern German Dramas"	1
English—"Prep. English Composition,—A" and "Prep. English Literature,—A"	1
"Prep. English Composition,—B" and "Prep. English Literature,—B"	1
Mathematics—"Elementary Algebra" (A, B, and C)	1 $\frac{1}{2}$
"Plane Geometry" (DMj.)	1
"Solid Geometry"	$\frac{1}{2}$
Physics—"Elementary Physics" (A and B)	1
Physiography—"Physical Geography"	
Drawing—"Freehand Drawing"	$\frac{1}{2}$
"Projective Geometry"	$\frac{1}{2}$

V. THE REQUIREMENTS FOR A BACHELOR'S DEGREE

A total of 66 majors representing four years (15 units, approximately 30 Mjs.) of high-school work and four years (36 Mjs. with 72 "grade points") of college work are required for a Bachelor's degree. Any amount of the high-school work and as much as one-half (18) of the 36 Mjs. of college work may be done by correspondence.

REQUIRED COLLEGE WORK

1. *Specified Courses*.—"English I" and "English III."

2. *Continuation Courses*.—Three majors of that subject in which 3 (or 2) units of admission work are offered or of that subject in which one unit of Senior high-school work is offered.

¹ These courses, when completed and passed, will be accepted in lieu of entrance requirements. Many of them will yield college credit if not offered for admission.

3. *Distribution Courses*.—Enough majors in each of the following groups to make the total (high-school+college) credit 4 majors (=2 units).

- I. Philosophy, History, and Social Science: Departments I–VI.
- II. Modern Languages other than English (all 4 majors in one language): Departments XIII, XIV. If two units of a language are offered as satisfying the requirements of this group, the student must prove his ability to read it with ease and intelligence by passing a test examination during his first quarter of residence, or must pass an additional major of the same language in college with a grade not lower than C.
- III. Mathematics: Department XVII.
- IV. Science: Departments XVIII–XXVIII.

4. *Sequences*.—(a) One principal sequence of at least 9 coherent and progressive majors taken in one department or in a group of departments.

(b) One secondary sequence of at least 6 majors selected from a different department or group of departments. These sequences must have the approval of the Dean. The work in the Divinity School, the Law School, the courses in Medicine, or the College of Education, may be counted in satisfaction of either sequence.

The degree of A.B. is conferred when these two sequences consist respectively of 11 majors of Latin and 9 majors of Greek (7 if all are taken in residence at the University) including entrance work.

The degree of Ph.B. is conferred when the principal sequence has been taken in Departments I–XVI.

The degree of S.B. is conferred when the principal sequence has been taken in Departments XVII–XXVIII.

Mathematics may, at the option of the student, be used as the principal sequence for the degree of either Ph.B. or S.B.

No courses counted in satisfaction of entrance requirements, or of the provisions of paragraphs 1 and 3, shall count in making up the principal and secondary sequences, except in the case of the 9- and 11-major groups in the requirements for the A.B. degree.

Not more than 15 majors may be taken in college in one department.

VI. COURSES OF INSTRUCTION

I. PHILOSOPHY

1. *Ethics*.—An introductory course intended (1) to familiarize the student with the main aspects of ethical history and theory, and through this (2) to reach a method of estimating and controlling conduct. The main divisions of the course are: (a) the general nature of moral conduct; (b) a study of the evolution of the moral problem from primitive life to the present; (c) a comparative study of current ethical theories; (d) application of the foregoing to present problems of social and individual life. The course will be based on the text of Dewey and Tuft's *Ethics*, with collateral study of Mill's *Utilitarianism*, Kant's *Metaphysics of Ethics*, and Spencer's *Data of Ethics*. Mj. DR. ASHLEY.

2. *Logic*.—This course is the equivalent of course 3 in residence. The topics considered are those usually included in a survey of logic—such as the concept; the various forms of judgment; inductive and deductive aspects of reasoning; the nature and use of the hypothesis; methods of inductive inquiry

and experimental investigation; syllogisms and fallacies, etc. Stress will be laid on the functional aspect of thought processes and attention will be called to underlying psychological principles. The aim throughout will be to emphasize the vital connection between logic and the practical problems of everyday life and to show that thinking in the strictly logical sense is a constructive process arising out of the needs of the individual and finding its value in enabling him to organize more adequately his experience and to deal more effectively with the subject-matter with which his thinking is concerned. The student may expect, accordingly, to acquire not only a practical knowledge of logic and a certain training in critical habits of thought but also a good basis for subsequent philosophical study. While "Elementary Psychology" is a helpful preliminary, the course may be taken with profit by those who are prepared for thorough study. Mj. DR. ASHLEY.

3. Greek and Mediaeval Philosophy.—This course is designed (1) as a survey of the history of thought, considered in its relations to the sciences, to literature, and to social and political conditions, and (2) as an introduction to philosophy through a more careful study of some of the most important systems. Special attention will be given to the study of the more important dialogues of Plato and to Aristotle's *Ethics*. Mj. PROFESSOR TUFTS.

4. Modern Philosophy.—Descartes to Hume, with special study given to Descartes' *Meditations*, Locke's *Essay*, Berkeley's *Principles of Human Knowledge*, and a portion of Hume's *Treatise on Human Nature*. Mj. PROFESSOR TUFTS.

5. Introduction to Kant.—Watson's *Selections* and Mahaffy and Bernard's editions of *The Critique of Pure Reason*, and *Prolegomena*, will be made the basis of the work. The course will be opened with a brief study of the thought of Leibnitz, for which Dewey's *Leibnitz* will be used. This will be followed by a brief outline of Kant's early development, and a detailed study of the more important portions of *The Critique* as found in Watson's *Selections*. Prerequisite: course 4, or its equivalent. Mj. PROFESSOR TUFTS.

6. Movements of Thought in the Nineteenth Century.—The course continues in less technical manner the history of modern philosophy: romanticism as represented by Rousseau and certain poets; idealism in German philosophy and in Carlyle; utilitarianism; positivism; transcendentalism as seen in Emerson's view of nature and man; the doctrine of evolution, particularly in its relation to human society and the problems of morality as considered by Huxley; the relation of the scientific to the philosophic point of view as defined by Royce. Those who register for the course should have access to a good library or be prepared to purchase a number of books. Prerequisite: two of the three courses, 3-5. Mj. PROFESSOR TUFTS.

7. Hindu Philosophy.—The course will trace the growth of philosophic thought in India from the *Rig Veda* through the *Upanishads* to the six great philosophical systems. Especial attention will be paid to the Vedānta, the Sāṃkhya, and the Yoga systems. Mj. DR. CLARK.

IA. PSYCHOLOGY

1. Elementary Psychology.—This course takes up the general study of mental processes. It aims to train the student to observe the processes of his own experience and those of others, and to appreciate critically whatever he may read along psychological lines. It is introductory to all work in philosophy and pedagogy, and is an important part of equipment for historical and literary interpretation. Mj. ASSISTANT PROFESSOR CARR.

2. Advanced Psychology.—This course presupposes such a familiarity with the subject-matter of psychology as may be gained from course 1 or from intimate acquaintance with Angell's *Psychology*, James's *Briefer Course in Psychology*, Royce's *Outlines of Psychology*, Titchener's *An Outline*, and *Primer of Psychology*, or Wundt's *Outlines of Psychology*. It may then properly be described as a continuation of the study or an *advance* upon an elementary presentation of

the science with a view to further grounding in methods, and a reconsideration of some of its salient problems in the light of recent specialized studies. Mj. DR. MACMILLAN.

3. Social Psychology.—Social Psychology connects the mental processes of the individual with the objective data furnished by the social sciences. Since it describes the working of mind in group relationships it has both practical and theoretical interest. It throws light on problems of politics, economics, and education. Some of the questions proper to this science are: What is "social consciousness"? From the psychological point of view, what is a family, a school, a city? What is the relation of mind to instinct? In what sense are feeling, perception, thinking, and language social? What is the secret of the power of advertising? What is fashion? How are mobs formed? What is the psychological explanation of leadership? By what devices are clubs, sects, and political parties held together? How does public opinion grow? What is meant by the social will? The significant contributions of European social psychologists are utilized in this course. However, stress is laid upon the views of American writers and the application of their views to contemporary national and local problems with which the student is familiar. Mj. DR. TALBERT.

4. Psychology of Religion.—The following topics are considered: (1) history of the psychology of religion; (2) the psychological point of view; (3) primitive religion; (4) custom and taboo; (5) magic; (6) spirits; (7) sacrifice; (8) prayer; (9) mythology; (10) development of religion; (11) religion in childhood; (12) adolescence; (13) normal growth; (14) conversion; (15) religion as involving the entire psychical life; (16) ideation; (17) feeling; (18) genius and inspiration; (19) non-religious persons; (20) sects; (21) the religious consciousness in democracy and science. Prerequisite: course 1 or its equivalent. Mj. ASSISTANT PROFESSOR AMES.

IB. EDUCATION

1. Principles of Education.—This course is designed to introduce students to the study of Education from a historical and scientific point of view. The readings are intended to arouse in the minds of the students some inquiries with regard to the possibilities of organizing the course of study in such a way that it shall be based upon psychological and sociological principles rather than mere tradition. Mj. PROFESSOR JUDD AND DR. FREEMAN.

2. Educational Psychology.—A study of the fundamental psychological processes, with especial emphasis upon those which have direct relation to educational problems. The application of mental laws both to general educational procedure and to the conduct of the special disciplines is made throughout. For example, the general problem of interest, and the particular school subjects, reading, writing, and number are treated from the psychological point of view. Attention is given also to the mental development of the child. Mj. DR. FREEMAN AND DR. ASHLEY.

3. Elementary-School Methods.—This course treats of the principles underlying the learning process and the selection and organization of subject-matter. Typical modes of activity, such as dramatic play, modeling in sand and clay, drawing, painting, excursions, field-trips, experimental work, illustrative and real constructive work, and language, are considered as means of providing first-hand experience which the child needs in order to understand the subject-matter presented in books and other symbols. The principles considered are applied to the teaching of history and nature study. Mj. DR. DOPP.

4. Principles of Method for High-School Teachers.—This course discusses the general principles of method which are fundamental in the teaching of all high-school subjects, and indicates by concrete illustrations from these subjects how the principles apply. The following topics are taken up: (1) broadening conceptions of the purpose of high-school education; (2) the machinery of school-keeping; (3) factors determining the selection and arrangement of subject-matter; (4) processes of learning—motor learning, learning involving simple

associations, learning involving analysis and reasoning, the development of appreciation, etc.; (5) incentives, motives, stimuli in learning; (6) typical methods of conducting instruction; (7) testing the results of instruction; (8) planning instruction. Mj. ASSOCIATE PROFESSOR PARKER.

5. School Administration and Supervision.—This course is designed for superintendents, principals, supervisors, and teachers who wish to prepare themselves for supervision and administration. It deals with the following topics: (1) organization of state school systems; (2) distribution of educational functions among state, county, town, and district officials; (3) municipal school systems; (4) the school board; (5) superintendent and supervisory staff; (6) the budget and its distribution; (7) school sites, buildings, heating, ventilation, lighting, sanitation, furniture, and equipment; (8) relations of administrative and supervisory officials to school boards, teachers, pupils, parents, and the community in general; (9) grading, testing, and promotion of pupils; (10) textbooks and schoolroom appliances; (11) courses of study from the superintendent's point of view; (12) preparation, certification, appointment, tenure of service, and promotion of teachers; (13) supervision of teaching and the training of teachers while in service; (14) compulsory education and child-labor legislation; (15) the education of exceptional children, delinquents, and defectives; (16) organization of vocational education, evening schools, and continuation classes; (17) physical education, medical inspection, playgrounds, and play centers; (18) educational statistics and reports; (19) new administrative demands being created by our present rapid expansion of educational functions. The course aims at a wide perspective view of organization for those who must direct the many serious readjustments that are now being made in our school systems with ever-increasing rapidity. Mj. DR. BOBBITT.

6. The Curriculum.¹—This course views the public-school curriculum from the point of view of social conditions and needs. It deals with the recent insistent demand that education definitely train for vocation, health, civic life, social intercourse, recreational activity, and moral conduct. During a period of fundamental reconstruction, when the curriculum is being subjected, from within and without, to violent destructive criticism indicative of widespread recognition of needs not met, the present course aims to show the constructive purposes of the progressive leaders in the movements of readjustment, and the nature of the constructive platform on which they stand. The course includes a study of (1) the materials entering into functional courses of study; (2) the recent differentiation of the curriculum to meet the needs of different vocational classes; (3) the possibilities of enrichment without congestion; (4) the changed status of the problem of correlation; (5) integral education, and the division of functions among home, school, and other social agencies; (6) the training of individuals in contradistinction to the teaching of "studies." Mj. DR. BOBBITT.

7. Problems in Secondary Education.—The course will discuss education as training for social efficiency: the intellectual, social, physical, and moral elements in education; adolescence; the high-school curriculum; handicrafts in secondary education; electives; the extension of the high-school course by the addition of two years; the school and the community; "the many-sided interest" on sending boys and girls to college. The student will be expected to make a study of schools in his neighborhood and to make reports upon these schools, in relation to the general topics studied. Mj. PROFESSOR BUTLER.

8. History of Education.—This course covers in outline the history of education from savagery to the present time. The subject is presented in such a way as to enable the student (1) to gain a conception of the relations of the ideals of an age to general industrial and social conditions; (2) to discover the more important steps in the development of educational theory and practice; and (3) to get a background for the evaluation of the various factors in the problems which command attention today. Emphasis is placed upon great movements

¹ Registration accepted after October 1.

rather than upon individuals. Eminent philosophers and educators are considered, but they are treated with reference to the movement to which they have contributed. Mj. DR. DOPP.

9. A Comparative Study of the School Systems of Germany, England, and the United States.—The course will trace the historical development of the existing systems of elementary and secondary education, with especial emphasis upon the characteristic ideals that have differentiated them, and upon present tendencies. Mj. PROFESSOR BUTLER.

10. State and Municipal School Systems of the United States.—A study will be made of certain state and city-school systems, the attempt being to select a few examples of what may be regarded as the best types of organization of public education, and a few of the opposite character. The object in study will be, through acquaintance with what has been tried and proved, to arrive at as clear a judgment as may be as to what is fundamentally sound in organization and administration, and to note what modifications are required by local conditions. Students should consult the instructor before registering. Mj. PROFESSOR BUTLER.

11. The Evolution of Industries and Their Place in Education.—This course is designed to meet the needs of those supervisors, principals, and teachers who are attempting to incorporate industrial education in the course of study. It aims (1) to afford an insight into the principles of selection by means of which industries and occupations of various sorts may be tested; (2) to present the most fundamental features of industrial evolution; (3) to make a more particular study of several typical industries; (4) to make a practical application of these studies to the elementary and high schools; and (5) to help the teacher gain information regarding the literature of the subject and the nature of the materials and apparatus required. Mj. DR. DOPP.

12. Industrial Education in Public Schools.—The course begins with an explanation of the meaning of the present widespread movement for industrial education, and a discussion of its relation to other phases of vocational training. This is followed by a historical sketch of industrial education in the United States since 1876, which serves to show the relation between manual training and industrial education. A complete analysis of the present demand for industrial education is made, and consideration is given to the attitude of the manufacturer, of organized labor, of the educator, and of the social worker. Educational ideals are discussed briefly and a statement is made of the necessary revision of these ideals involved in the evolution of the school system to meet the demand for industrial education. A comprehensive plan of organization for school systems of industrial communities is discussed in detail and a study is made of all the existing types of industrial schools or classes. These include elementary or pre-vocational, intermediate, secondary, trade, part-time, continuation, and evening schools. Reference is also made to some private experiments in trade training. Among the topics discussed in their relation to industrial education are the following: (1) industrial history; (2) labor and capital; (3) elimination of waste; (4) specialization and concentration; (5) basis of differentiation between elementary and secondary education; (6) vocational guidance; (7) state legislation. Mj. ASSOCIATE PROFESSOR LEAVITT.

13. Primitive Arts as Educational Means.—This course treats of such typical arts as the dance and pantomime, the festival, music, poetry, the graphic and the plastic arts with reference to (1) their genesis, growth, and differentiation; (2) their practical, intellectual, social and aesthetic values; and (3) their significance in elementary education. Mj. DR. DOPP.

14. General Course in Child-Study.—This course aims to familiarize students with the known facts and established principles regarding child life. It reviews the principal problems investigated, the accepted present-day methods of collecting, standardizing, and presenting data, and the most important results of recent and contemporaneous work in their various bearings. Mj. DR. MACMILLAN.

15. An Introduction to the Theory and Practice of the Kindergarten.—The aim of the course is: (1) to make a careful study of the best material, songs, games, and stories for children of kindergarten age; (2) to compare those we have today with those selected by Froebel, thus illustrating his anticipation of many phases of the child-study movement; (3) to find the right place and relation of his ideals to the later principles and methods of genetic psychology. Mj. MRS. PUTNAM.

16. Froebel's Educational Ideals.—This course aims to trace the evolution of educational ideas that were organized into a working system by Froebel, to examine the theoretic side of that system through a study of the *Education of Man*, the *Pedagogics of the Kindergarten*, and *Mother Play Book*, and to study the relation of these theories to present educational thought. Mj. MRS. NEWELL.

17. The Training of Children (for Mothers).—The special aim of the course will be to bring to the mother or teacher such practical knowledge of the fundamental laws of the growth and development of children as will be applicable in the home, beginning in the nursery and following through the periods of childhood and adolescence. It will treat of the problems of play, interest, habit, etc., and will aim to show how Froebel, the originator of the kindergarten, would make the child the chief agent in his own development, and at the same time offer a basis for an intelligent and willing obedience to law. The standards of, and reasons for, present educational methods will be discussed, that parents may judge discriminatingly of the school work which is being done by and for their children, and determine whether it is really making for the best all-sided growth of the child. Mj. MRS. PUTNAM.

NOTE.—Related courses will be found under Departmental Nos. I A, IV, VI, XII, XIV, XV, XVI, XVII, XXI, XXI A, XXII, XXIV, XXVII, CXXII, CLVIII.

II. POLITICAL ECONOMY

1. Principles of Political Economy.—

A. This course endeavors to point out to the student the main characteristics of our present industrial system. This is done by an examination of its development and by an analysis of its features. A careful study is made of the economic laws governing the production, consumption, and exchange of wealth. Mj.

B. In this course the problems of distribution and several of the concrete problems of the day are discussed. Among the subjects treated are the following: rent; wages; interest; profits; money; banking; international trade; the tariff; trade-unionism; socialism; taxation and public finance. Prerequisite: course 1 A. Mj. PROFESSOR MARSHALL AND MR. BONNETT.

NOTE.—A and B are equivalent to courses 1 and 2 in residence and are required of all candidates for a degree in the College of Commerce and Administration, as well as for advanced work in Economics.

2. Economic History of the United States.—A general survey of the subject aiming to acquaint the student with the economic problems and forces as they developed and shaped the course of American history—a phase frequently neglected, but of fundamental importance for a proper understanding of the history of the American people. Among the main topics treated are: (1) colonial agriculture, industry, and commerce; (2) economic aspects of the Revolution; (3) the opening up and settlement of the West; (4) the public lands; (5) internal improvements; (6) railways and waterways; (7) slavery; (8) immigration; (9) the merchant marine; (10) foreign commerce; (11) the development of agriculture; (12) the rise of manufactures; (13) the growth of trusts and trade-unions. Mj. ASSISTANT PROFESSOR WRIGHT.

3. Money.—The subjects considered in this course are: (1) the nature and function of money; (2) metallic money; (3) the theory of prices; (4) the nature and effect of credit; (5) paper currency and credit instruments; (6) monetary problems—bimetallism and the gold standard, greenbacks, and national bank

notes, the elastic currency question, etc. Throughout the course emphasis will be placed on the practical side of monetary science. This course is intended for high-school teachers of economics, college students, bankers, business men, and all who wish to inform themselves on an ever-present question of basic importance in the economic world. Mj. PROFESSOR LAUGHLIN AND MR. BONNETT.

4. Theory and History of Banking.—This course is the equivalent of course 31 in residence. The purpose will be to present the main features and underlying principles of our present banking system and to study the changes in that system as proposed by the advocates of asset currency, a central bank, government guaranty of deposits, and postal-savings banks. A study will be made of the functions of a bank and of the principles governing note issue, deposit currency, loans and discounts, reserves, clearing-houses, the relation of banks to the government, branch banking, exchange, and other related subjects. Much of the above study will be made inductively through a careful survey of the history and present status of banking, first, in England, France, Germany, Scotland, Canada, and Mexico; and second, in the United States, including the First and Second Banks of the United States, state banks, and the national banking system. Mj. PROFESSOR LAUGHLIN AND MR. BONNETT.

5. Public Finance and Taxation.—This course will cover the theoretical and practical aspects of public finance. The greater part of the course will be given to a systematic and comparative study of taxation with the principal emphasis on American conditions. Under the federal system will be considered the fiscal aspects of the tariff, internal revenue duties, and the corporation tax; under the state and local systems the general property tax and its proposed substitutes, corporation and railway taxation, inheritance taxes, business taxes, etc. A careful study will also be made of financial administration, public expenditures, and public debts. Mj. MR. GARVER.

6. Labor Conditions and Problems.¹—This courses treats of the genesis of the wage working class and of its legal and industrial status under modern capitalism. It aims to deal concretely with existing conditions and problems of labor—the current rates of wages, and standards of living of the workers, modes of wage payment, hours of labor, conditions of sanitation and safety, industrial accidents and diseases, unemployment and superannuation, legal protection, etc. It intends to give the student a basis for judicious consideration of the solutions of labor problems offered by trade-unionism, socialism, and current reform projects. Prerequisite: courses 1A and B. Mj. ASSOCIATE PROFESSOR HOXIE AND MR. BONNETT.

7. Trade-Unionism and Labor Legislation.—A historical and comparative study of trade-unionism and labor legislation in the United States and foreign countries. Among the topics treated in this course are the following: causes of the formation of trade-unions; nature of trade-union organization; relations of trade-unions with employers—collective bargaining, strikes, boycotts, lock-outs, arbitration, conciliation, etc.; trade-union policies—minimum wage, normal day, apprenticeship system, etc; legal status of trade-unions; factory legislation; employers' liability; workingmen's insurance. Prerequisites: course 6 or its equivalent. Mj. ASSOCIATE PROFESSOR HOXIE AND MR. BONNETT.

8. Railway Conditions.—For those desiring a general survey of the whole field of railway practice, for young railroaders of restricted experience, whether in track, motive-power, transportation, traffic, or accounting departments, and for those desiring to enter the service this course is admirably adapted. The lesson papers treat in order: (1) general organization; (2) freight traffic and operation; (3) passenger traffic and operation; (4) signaling and train service; (5) track, locomotive, and car equipment; (6) auditing; (7) economic and legal relations. No one of these subjects is treated exhaustively, but the diligent student is assured of a solidly useful understanding of modern practice, which will be a decided help to him in securing advancement. 1½ Mjs. PROFESSOR DEWSNUP.

¹ Registrations accepted after October 1,

9. Modern Socialism.—In this course a careful study is made of modern socialist theories, especially those of Karl Marx. In addition to the theoretical work a study is made of the growth and development of the Socialist Party in Germany, France, England, Austria, Italy, and other European countries as well as in the United States. Among the topics treated in this part of the course are the causes of the growth of socialism in various countries; the relation of the socialists to the trade-unionists; the platforms and programs of the socialist parties; and the reforms already accomplished by the socialists in the countries where they have attained considerable power. Prerequisite: course 6 or its equivalent. Mj. ASSOCIATE PROFESSOR HOXIE AND MR. BONNETT.

ACCOUNTING

10. Bookkeeping.—This course is a full treatment of the principles of bookkeeping. Its purpose is to acquaint the student with the theory and nature of accounts. The subjects treated will be (1) forms of accounts, (2) books used in accounting, (3) mode of handling commercial papers, (4) the recording of transactions, and (5) double-entry methods in retail business. The principles presented will be practically illustrated by a series of transactions which the student will be required to enter in a set of forms which accompany the textbook required in the course. Prerequisite: a working knowledge of arithmetic. [This course commands admission credit only.] Mj. MR. ARNETT AND MR. KEEN.

11. Partnership and Wholesale Accounting.—This course follows course 10, and is designed for students who have completed that course, or who are familiar with the principles of bookkeeping which are therein enunciated. Partnership accounts are introduced and explained; profit or loss is carried to the partners' accounts, and the books closed. The accounts pertaining to a wholesale business are then taken up, and in addition to the books previously studied, special attention is given to the invoice book, the sales book, and sales ledger, and bills receivable and bills payable books. A brief consideration of costs is given, and a comparison is made of the sales and costs of the several departments in the business. As in course 10, the student will be required to do practical work in recording transactions and handling the papers pertaining thereto. Mj. MR. ARNETT AND MR. KEEN.

12. Corporation Accounting.—In this course will be studied the formation of corporations; the conversion of a partnership into a corporation and the treatment of good-will; the special accounts and books used in corporation accounting; the manner of issuing, transferring, and canceling stock; the making of forms of balance sheets, and a study of the items composing the same; the income accounts; the declaring and payment of dividends; reserve fund; depreciation, surplus, and the closing of the books for the year. The student will be required to do practical work illustrating the above principles; and in connection with the references given to prepare papers on the special topics. Prerequisite: course 10, or its equivalent. Mj. MR. ARNETT AND MR. KEEN.

13. Cost Accounting.¹—This course is designed to give a correct understanding of that type of accountancy which deals with preparing products for the market. Due consideration will be given to all the elements and principles involved in the process of manufacturing. A synthetic set of problems will be used to illustrate in detail the direct relation of expense to output. Prerequisite: course 12 or its equivalent. Mj. MR. ARNETT AND MR. KEEN.

14. Bank Accounting.—This course makes a study of the books employed in banks for original and subsequent entry. Full instruction is given for opening and closing such books and all processes are amply illustrated. The transactions to be handled comprise the actual business of a bank for a period of six months. After these transactions have been correctly entered, the books will be closed, a financial statement rendered, and a thorough review given upon the principles covered in the course. Prerequisite: course 10 or its equivalent. Mj. MR. ARNETT AND MR. KEEN.

¹ Registrations accepted after October 1.

15. Auditing.¹—This course is designed to cover the subject of auditing and includes a consideration of (1) the duties of auditors; (2) the method of preparing for an audit; (3) the responsibilities which must be assumed by the auditor; (4) the various books to be examined and the method of examination; (5) a differentiation of charges to capital and to revenue account. It will also take up the balance sheet of various corporations and the method of treatment in proving up the items shown therein. Special attention will be given to reserves, depreciation, amount available for dividends, and the valuation of the assets. Mj. MR. ARNETT.

III. POLITICAL SCIENCE

1. Civil Government in the United States.¹—This course is an analysis of the structure and working of government in the United States, with some examination of the historical development of existing forms. Mj.

2. Elements of Business Law.—This course deals with the following branches of private law: (1) contracts; (2) sales; (3) bills and notes; (4) agency; (5) partnership; (6) private corporations; (7) bailments; (8) guaranty and suretyship. These are the subjects most closely connected with the ordinary transactions of business. The general doctrines and underlying principles of these branches are discussed and analyzed and their application illustrated by actual cases. To indicate the scope of the work the following topics will receive attention in dealing with (6) *private corporations*: (a) formation of a corporation; (b) capitalization; (c) common and preferred stock; (d) bonds; (e) ownership and transfer of shares; (f) liability of shareholders; (g) management of corporations; (h) corporate meetings; (i) the powers and duties of officers; (j) the legal powers of the corporation; (k) dividends; (l) dissolution and liquidation of corporations. The purpose of this course is twofold; (1) to give to the man of business a knowledge of the general character and extent of his legal rights and duties; (2) to give to the general student an introduction to the study of the nature and doctrines of American private law, so far as they are illustrated in the subjects treated. Mj. DR. HALL.

3. Elements of International Law.—A study of the rules observed by civilized nations in their relations with each other. The course includes a general consideration of the history and development of international law and a more detailed study of the subject in its three fundamental divisions of peace, war, and neutrality. Some of the topics treated are the nature, sources, and divisions of international law; the intervention of one nation in the affairs of another; the rights and duties of nations in connection with property; the extent and nature of a nation's jurisdiction over its territory, subjects, and public and private vessels; the rights and duties of diplomacy; modes of warfare; recognition of belligerency; effect of war on treaties; rules of war on land and sea; rights and duties of neutral states; blockade; contraband of war; etc. The course is not strictly technical in character, and should prove of value to those desiring a better understanding of current international affairs, as well as to lawyers and teachers of history and political science. The work will be based on a standard text, supplemented by a book of cases on international law. Mj. DR. HALL.

4. Constitutional Law in the United States.—A study of the principles of constitutional law as they have been developed in relation to the federal constitution and to some of the more important provisions of the state constitutions of the United States. The general topics discussed are: (1) the nature of American constitutional law; (2) making and changing of the American constitution; (3) separation of power; (4) function of judiciary in enforcing constitutions; (5) political rights; (6) personal and religious liberty; (7) protection to persons accused of crime; (8) due process of law and equal protection of the law in regard to procedure, the police power, power of taxation, and the right of eminent domain; (9) laws impairing the obligations of contracts; (10) powers of the federal government and their exercise; (11) regulation of commerce; (12) inter-

¹May be available later in the year.

governmental relations, and (13) jurisdiction of the federal courts. This course is based upon the study of actual cases, which, wherever practicable, have been so selected and arranged as to show not only the law as expounded by the courts today, but also its historical development. This is supplemented with the text which gives an exposition of the general rules derived inductively from a study of the cases. As far as possible technical terms are avoided so that the course will be of equal value to the general student, the political scientist, and the lawyer. Mj. DR. HALL.

NOTE.—Related courses will be found under Departmental Nos. II, IV, and VI.

IV. HISTORY

ACADEMY

1. Outline History of Antiquity to 337 A.D.—The ground of ancient history with which students entering college are expected to be familiar, is covered. A and B together satisfy the entrance requirement in history. The suggestions for study are made very definite as helps to beginning students and as an outline of work for high-school teachers.

A. Oriental and Greek History to 146 B.C.—A general narrative and descriptive history of Greece to the Roman conquest, with a brief introductory sketch of the oriental nations that especially influenced Greek civilization. Mj.

B. Roman History to 337 A.D.—A general view of Roman history from the early Republic to the establishment of the later Empire in the fourth century, paying special attention to the government and institutions of the latter as a basis for an intelligent study of the mediaeval period. Mj. ASSISTANT PROFESSOR KNOX.

COLLEGE

2. History of Antiquity to the Fall of the Persian Empire.—In this course the history of the nations of the ancient East—Babylonia, Egypt, Assyria, Syria, Israel, etc.—is studied in its development from the beginnings of organized political life to the fall of the world-empire of Persia. A large amount of reading is expected of students. Mj. ASSISTANT PROFESSOR KNOX.

3. History of Greece to the Death of Alexander.—This course presupposes a general knowledge of the external facts of Greek history (course 1A), and undertakes to conduct the student into an investigation of the underlying principles and forces which condition the outward events. It is intended for those who wish to go thoroughly into the subject, and are willing to give their time and thought to it. Mj. ASSISTANT PROFESSOR KNOX.

4. History of England to the Accession of the Tudors.—Early Britain, its Romanization, the settlements of the invading German tribes, the struggle for supremacy, the union of England under Wessex, the Norman Conquest, the struggle of the people for constitutional rights, civil and foreign wars, and the beginning of the Renaissance in England will be studied. Mj. ASSISTANT PROFESSOR KNOX.

5. England from Henry VII to Edward VII (1485-1900).—Special emphasis will be placed upon the history of the Reformation, the struggle between king and parliament, English society and civilization, colonial expansion, and the growth of democracy in the nineteenth century. Mj. ASSISTANT PROFESSOR KNOX.

6. Outline History of Mediaeval Europe (350-1500).—The invasion and settlement of the barbarians, the revival of the empire, the growth of the papacy, and the struggle between those two, Mohammed and his religion, the Crusades, the rise of nationalities, mediaeval institutions, and the Renaissance will be studied. The needs of the teacher as well as those of the general student are met in this course. Mj. ASSISTANT PROFESSOR KNOX.

7. Outline History of Modern Europe (1517-1815).—The principal topics treated are: the Reformation; the religious wars; the struggle for constitutional

liberty in England; the ascendancy of France under Louis XIII and Louis XIV; the rise of Prussia; England's colonial supremacy; the era of the French Revolution and Napoleon. While the primary object is to give the student a knowledge of the political history of the period, due attention is paid to the economic, social, and religious movements that are essential to this object. This course will be helpful to teachers as well as to students of history. Mj. ASSISTANT PROFESSOR KNOX.

8. Europe in the Nineteenth Century¹ (1815-1900).—The following topics indicate the scope of the course: the attempt to govern Europe according to the reconstruction of 1815; the agitation for popular government in France, Italy, and Germany; the revolutions of 1830 and 1848; France under Napoleon III; the growth of German and Italian unity; the establishment of the German Empire, of the dual system in Austria-Hungary, and of the Third French Republic; national development and international relations since 1870. The course presupposes an outline knowledge of the French Revolution and the Napoleonic epoch. Students who have not recently studied this period will be expected to prepare themselves by a careful reading of some manual, such as J. H. Rose's *The Revolutionary and Napoleonic Era*, or H. Morse Stephens' *Revolutionary Europe*. Mj. DR. HARVEY.

9. Europe from 1250 to 1500.—A survey study of the period of the Renaissance in Europe. In addition to a general understanding of important events, emphasis is laid upon exploration and discovery; the growth of nationality; the expansion of the Ottoman empire; commercial and industrial conditions; and the prominent intellectual and religious movements. Prerequisite: course 6 or its equivalent. Mj. ASSISTANT PROFESSOR KNOX.

10. Europe from 1517 to 1648.—This course is a study of the causes, events, and results of the Reformation in Europe. Much attention will be given to the political, social, and economic phases of the movement, the inseparable religious questions being discussed only so far as is necessary to an understanding of the period. Mj. ASSISTANT PROFESSOR KNOX.

11. The French Revolution and the Era of Napoleon.—The ground will be cleared for the history of the period by a careful study of the institutions of the Old Régime, in which the remoter causes of the Revolution will be discovered. A consideration of the more immediate causes and the attempts at reform will introduce the Estates General. The Revolution ran through three periods which answer to the National Assembly, the Legislative Assembly, and the Convention, to the extreme of a Red Democracy. Three more periods, corresponding to the Directory, the Consulate, and the Empire, see France return to a military absolutism under Napoleon. The greatest emphasis will be laid upon the institutional changes induced by the French Revolution, and attempt will be made to show the constructive work of the Revolution and of Napoleon. Its importance as one of the greatest generic events of the world's history will give the course a significance wider than France alone. It is desirable that the student be familiar with the outlines of modern European history. Mj. ASSOCIATE PROFESSOR THOMPSON.

AMERICAN HISTORY

GROUP I

NOTE.—The courses in American history fall into two groups: an outline course (12), and a series of four courses (13-16) covering, in a more thorough manner, the entire field. The student is advised to take the courses of the second group in sequence. In this way he will greatly economize the expenditure for books, since successive courses require the same textbooks to some extent. Graduate credit may be obtained in courses 13, 14, 15, and 16, by properly prepared students who have access to sources and original documents and who do additional advanced work under the direction of the instructor. In such cases the tuition fee for each minor will be \$16 instead of \$8.

12. Outline History of the United States from Colonization to the Present Time.—Colonial history will be considered very briefly, while the period from 1763 will be emphasized and an acquaintance made with some of the important

¹ Registrations accepted after October 1.

documents and sources of American history. It will be especially helpful to high-school teachers. Mj. ASSISTANT PROFESSOR KNOX.

GROUP II

13. Colonial Period (1492-1763).—

A. *Discovery and Colonization.*—The course deals with the American aborigines, the causes and motives leading to the discovery of America, the voyages and journeys of the discoverers, the claims arising from these explorations, the growth of geographic knowledge, and the founding of the English, French, Spanish, Dutch, and Swedish Colonies. M.

B. *Colonial Institutions and History.*—This course begins with a study of the political institutions of the American colonies. English colonies receive most attention, but those of other nations are also considered. The chief events of colonial history are then considered, with especial reference to the relations between the English colonies and the mother-country. The course concludes with a survey of the struggle for supremacy in North America, ending with the final triumph of the English in the Seven Years' War. M. ASSISTANT PROFESSOR JERNEGAN.

14. The Formation of the Nation (1763-1789).—

A. *The American Revolution (1763-1783).*—The following topics show, substantially, the content of the course: the territorial, political, and economic condition of the English colonies in 1763; the new policy of the English government; the development of colonial opposition; the constitutional and philosophical arguments on both sides; the beginning of hostilities; the Declaration of Independence; the progress of the war; Congress as a governing body; the Loyalists; French and Spanish intervention; Washington's triumph; the preliminaries and terms of peace of 1783. M.

B. *Confederation and the Constitution (1783-1789).*—The following topics are treated: the results of the Revolutionary War; the government under the Articles of Confederation; the organization of the western territory; interstate controversies; problems of diplomacy and foreign trade; violations of the treaty of peace; paper money; the Shays Rebellion; the Constitutional Convention; analysis of the Constitution; the process of ratification. M. ASSISTANT PROFESSOR JERNEGAN.

15. The Growth of the Nation (1789-1861).—

A. *Foreign Politics and National Expansion (1789-1829).*—Beginning with the organization of the national government, the course deals with the policy of the Federalist party in foreign and domestic politics and the rise of the Democratic opposition. The broad and strict constructions of the Constitution are carefully studied. Further topics are the fall of the Federalists; Jefferson's policy; annexation of Louisiana; experiments in neutrality; and the causes, progress, and results of the War of 1812. The course concludes with a survey of the political and economic reorganization after the war, including western expansion, the Missouri Compromise, the Monroe Doctrine, and the triumph of the Jacksonian democracy. M.

B. *The Strife of Sections (1829-1861).*—This course opens with a study of Jackson's administration—the civil service, tariff, nullification, bank, etc. Slavery then becomes the dominant issue. The chief topics are slavery as a system; the anti-slavery movement; Texas and the Mexican War; the Compromise of 1850; the Kansas-Nebraska question; the Dred Scott case; the rise and final triumph of the Republican Party; and the consequent secession of the southern states. M. ASSISTANT PROFESSOR JERNEGAN.

16. Consolidation and Expansion (1861-1904).¹—

A. *Civil War and Reconstruction.*—M.

B. *Political and Economic Centralization—The Nation as a World-Power.* M. ASSISTANT PROFESSOR JERNEGAN.

¹ Not given during 1912-13.

SCHOOL OF EDUCATION

17. History for Primary Grades.—This course is designed for teachers in primary grades and also for supervisors and principals. It aims (1) to show the principles upon which subject-matter should be selected for the children of the lower grades; (2) to assist the teacher in outlining a course of study; (3) to give practical help in methods of presenting subjects to children; (4) to show the relation which a course of study in history should bear to the social occupations of the school. The course treats of the following topics: primitive, industrial, and social life; local history; civics; constructive work; children's literature. Students who are teaching in primary grades may modify their work to make it of practical assistance in their own schools. The course covers the ground of course 2 in residence. Mj. ASSOCIATE PROFESSOR RICE.

18. Teachers' Course in American History.—This course is intended for teachers in the upper grades of the elementary schools. It gives a brief study of colonial history and of the Revolutionary war, and a fuller treatment of the period of westward expansion. The effects of geographical environment upon occupations and of occupations upon social life and government are emphasized. The course corresponds to course 3 in residence. Mj. ASSOCIATE PROFESSOR RICE.

VI. SOCIOLOGY AND ANTHROPOLOGY

SOCIOLOGY

1. Introduction to Sociology.—A study of the phenomena of social life; the basis of society in nature; the social person; social institutions; and social psychology, order, and progress. The course is designed to give an introduction to theoretical and practical sociology, and to systematize the reading, observation, and thinking of advanced students. The order of thought will be that of Henderson's *Social Elements*, and bibliography will be added according to the need of each student. Mj. ASSISTANT PROFESSOR MACLEAN.

2. Introduction to the Study of Society.—This course is designed to afford a synthetic view of social phenomena, and to furnish the student with a scientific method for the study and correct understanding of ordinary human association. Considerable attention will be paid to local studies as a means of amplifying the text. The aim is to have the course serve as an introduction to the special social sciences. Mj. ASSISTANT PROFESSOR MACLEAN.

3. Elements of Industrial History.—The aim of this course is to acquaint the student with the salient facts of American industrial history and to furnish a foundation for those who wish to do further work in economics or sociology. Selected industries will be studied in detail and their evolution discussed. A course for practical people as well as for students. Mj. ASSISTANT PROFESSOR MACLEAN.

4. Social Debtor Classes.—A course for practical social workers and supporters of social amelioration. The particular work in which the student is interested is taken as a starting-point and an attempt is made to discuss various forms of preventive and constructive social work from the standpoint of the relief visitor, city missionary, alienist, contributor, or lay student, as the case may be. Texts are chosen with a view to the reader's special needs, and illustrations are taken from his own state or community. The chief aim of the course is to give occasion for the reader to analyze, classify, and describe his own environment, and his own experience and observation. Prerequisite: Course 1 or its equivalent. Mj. ASSISTANT PROFESSOR MACLEAN.

5. Problems of the American City.—Study will be made of: (1) the growth of American cities, with the geographic, economic, political, and other causes for their location and growth; (2) immigration and its effect upon the growth of cities in America; congestion of population; (3) slums, and the housing conditions of American cities; (4) urban transportation and its effect upon congestion, suburbs, park sites, city plan, etc.; (5) sanitation—pure water, sewage disposal,

garbage disposal, street pavements, street cleaning, etc.; (6) city parks and playgrounds, and forest reserves—the functions of each; (7) urban architecture—public, semi-public, private; (8) municipal art and its possibilities; (9) the city plan and its relation to topography, to transportation, to housing, to parks, to city beautification—best types of plan for differing conditions—replanning cities, and planning for present and future growth; (10) city government—functions of mayor, of council, misgovernment of American cities, why so many cities are testing the commission plan of government; (11) problems and solutions—saloons, settlements, school centers, libraries, playgrounds, charities. In addition to the reading of recent books and articles on municipal affairs the student, under the direction of the instructor, will observe urban conditions in his own locality and will prepare a report on some American city having over one hundred thousand inhabitants. The course corresponds to course 52 in residence. Mj. DR. WOODHEAD.

6. Rural Life.—The aim of this course is to study rural social life in America, with its problem of isolation, and organized efforts for improvement. The course is designed to meet the needs of Young Men's and Young Women's Christian Association secretaries, country ministers, teachers, social workers, and others who are dealing with the problems of rural communities. The country will be studied in its physical, economic, and psychological aspects with a view to a thorough understanding of rural life, a discovery of needs and existing efforts to meet these, and suggestions for further improvement. Mj. ASSISTANT PROFESSOR MACLEAN.

7. Problems of Industry.—A course designed for the discussion of some of the vital questions in American industrial life, including (1) the labor of women and children; (2) methods of settling disputes; (3) insurance against accident; (4) the improvement of physical conditions in factories; (5) efforts to render workers more efficient. The work will be conducted by means of textbooks, reports, and special studies. Mj. ASSISTANT PROFESSOR MACLEAN.

ANTHROPOLOGY

8. General Anthropology.—An introductory course treating of the origin, antiquity, distribution, and early occupations of man and of the sources of language, religion, the arts, and social relations. The student must consult the instructor before registering for this course. Mj. ASSOCIATE PROFESSOR STARR.

VIA. HOUSEHOLD ADMINISTRATION

1. House Sanitation.—This course offers a comprehensive and practical study, based on scientific principles, of the sanitary aspects of the home. Among the topics treated are the choice of building site, construction and care of cellar, drainage, plumbing, heating, lighting, furnishing, and cleaning. Mj. PROFESSOR TALBOT.

2. Foods and Dietsaries.—A course in practical dietetics covering the study of the composition of foods, scientific principles of preparation, and their combination in dietsaries from an economic and physiological standpoint. Mj. PROFESSOR TALBOT.

3. Administration of the House.—This course will consider the order and administration of the house with a view to the proper appointment of the income and the maintenance of suitable standards. Changes in household industries in the light of modern economic and social conditions, and sanitation will be studied. The domestic service problem will be investigated. Mj. PROFESSOR TALBOT.

SCHOOL OF EDUCATION

4. Design, Decoration, and Furnishing of the House.—This course treats of the general principles which govern the decorating and furnishing of an artistic home, and is intended: (1) for home-makers, as an aid (a) in the selection of

paints and stains for house exteriors, wall and floor coverings, draperies and upholstery, furniture, hardware, table appointments, etc., (b) in the arrangement of the home with due regard to color harmonies and space relations, and (c) in the designing and executing of such pieces of handcraft as stenciled or embroidered hangings and covers, lamp and candle shades, screens, pillows, etc.; (2) for teachers, as an enrichment of the courses in art and domestic science in primary and secondary schools, offering in the home a nucleus for a course embracing problems in design and handwork. The following topics are treated: (1) domestic architecture, selection from architects' drawings, exteriors and plans, making original plans; (2) color and color harmonies, applied to the exterior and interior of a house; (3) proportion and space relations with illustrative problems in designs; (4) study in detail of walls, floors, stairs, doors, windows, furniture, hardware, and textiles, with investigation, under direction, of articles to be found in the stores. **Mj. MISS RAYMOND.**

5. The Application of Heat to Food Materials.—This course includes (1) a study of the food principles; (2) the methods by which heat is applied to food and the effect of different temperatures on the food principles, cooking apparatus and its construction, household fuels and their economic value; (3) combinations of foods and the development by experiment of the principles underlying proportions and methods; (4) some of the simpler processes of chemistry and bacteriology as applied to food preparation; (5) typical manufacturing processes, and some phases of the history and geography of food products; (6) laboratory directions and experiments; (7) the carrying out of actual cooking processes as a result of the application of these experiments. The course is planned to meet the needs (1) of those who are beginning their preparation for teaching home economics; (2) of teachers who desire to review their work in the light of the recent development of the subject; (3) of social workers in institutions whose activity is largely expressed in household administration; (4) of progressive housekeepers. The two majors correspond to residence courses 3 and 4 and should be taken in sequence.

A. Furnishes an introduction to the study of food, with its place in home economics and includes a study of: (1) formulation of weights and measures; (2) water—its use in the body and its use in cooking processes, boiling and freezing points and the factors that affect them, solution, evaporation, the preparation of tea, coffee, and frozen mixtures; (3) different methods of conveying heat—coal and gas ranges, the fireless cooker; (4) a study of fruit—its composition, introducing the subjects of mineral salts, organic acids, and sugar, bacteria, yeasts and molds in connection with the canning and preserving of fruit, and jelly making; (5) starch and the study of vegetables, with their preparation in various ways; (6) classification of carbohydrates; (7) fats—their decomposition products, use in cooking, the comparative value of various kinds as food; (8) the introduction of protein through the study of milk, separation of food principles, butter making, cheese cooking, pasteurization and sterilization; (9) eggs, giving different types of protein. **Mj.**

B. Continues A and includes a study of: (1) proteins illustrated by meat cooking, with especial reference to the effect of different temperatures, gelatin and its use, soups; (2) combinations of starch and proteins; (3) salads; (4) cereals; (5) flour—its manufacture and analysis; (6) doughs and batters, and methods of lightening them; (7) the chemistry of baking powder; (8) yeast in relation to bread making; (9) the making of menus and preparation of meals. **Mj. MISS SWAIN.**

6. The Chemistry of Foods.—A study of (1) the properties and characteristic reactions of proteids, carbohydrates, and fats, with qualitative tests for their identification; (2) separation of the food principles; (3) study of milk, water, and flour, with some of the simpler methods employed in their analysis; (4) experiments in fermentation; (5) food adulterations and household methods for their detection; (6) laboratory work. Prerequisite: one year of chemistry and course 2 or 5, above, or an equivalent. **Mj. MISS SWAIN.**

7. The Teaching of Home Economics.¹—A study of the purpose of this work in the schools; its value as training; its relation to the social life of the school and of the home; the correlation with other studies in the curriculum; the relation of the handwork involved to the science that underlies it and that grows out of it; the selection of subject-matter and the planning of courses, and their adaptation to different conditions; the planning of school laboratories, and the choosing of equipment. Prerequisite: one year of technical training in the subject. Mj.

NOTE.—Related courses will be found under Departmental Nos. II, III, VI, XVII, XX, XXII, XXIV, and XXVIII.

VII. COMPARATIVE RELIGION

(For courses see p. 63)

VIII. THE SEMITIC LANGUAGES AND LITERATURES

(SEE XLI. OLD TESTAMENT LITERATURE AND INTERPRETATION)

IX. BIBLICAL AND PATRISTIC GREEK

(SEE XLII. NEW TESTAMENT LITERATURE AND INTERPRETATION)

X. SANSKRIT AND INDO-EUROPEAN COMPARATIVE PHILOLOGY

1. Elementary Sanskrit.—The aim of the course is to give the student a thorough grounding in the essentials of Sanskrit grammar, the principles of which are illustrated by constant translation from Sanskrit into English and from English into Sanskrit. It is designed as an introduction to the selections from classical Sanskrit in Lanman's *Reader*, which the student should then be prepared to read rapidly by himself. No attempt is made to teach comparative philology in this course. Mj. DR. CLARK.

2. The Bhagavad Gītā.—The Sanskrit text of this most famous of all Hindu religious books will be read and some attention will be paid to the content and the development of the doctrines contained in it. Mj. DR. CLARK.

Hindu Philosophy.—(Cf. description under Philosophy 7). Mj. DR. CLARK.

The Religions of India.—(Cf. description under Comparative Religion 4). Mj. DR. CLARK.

3. Elementary Russian.—

A. After a general study of the declensions and conjugations, texts supplied with extensive notes will be taken up and mastered. Mj.

B. Continues the study of texts with review of inflectional forms. The vocabulary will be enlarged by the study of roots and suffixes. Elementary composition. Extensive syntax study. Mj. MR. HARPER.

NOTE.—These courses are eminently practical. Provisional credit is given when A is passed. It will be made permanent when B is passed.

4. Elementary Chinese.—

A. This course gives the student (1) the principal rules for pronouncing Chinese words; (2) a vocabulary of about 250 of the most common words; (3) practice in constructing short sentences in Chinese; (4) progressive exercises involving the elements of the grammar—verbs, nouns, and adjectives; (5) drill in translating sentences from English into Chinese and vice versa. A Chinese elementary reader will be used throughout the course. Mj.

B. Advancing on A (1) the vocabulary will be extended to include 500 words; (2) the more difficult points of the grammar will be taken up; (3) the development of verbs will receive special consideration; (4) longer exercises in translating Chinese into English and vice versa will constitute the principal part of the course. A more advanced Chinese reader will be used. Mj. MR. WANG.

¹ May be available later in the year.

XI. THE GREEK LANGUAGE AND LITERATURE

ACADEMY

1. Elementary Greek.—In two majors is offered the equivalent of the first year of high-school work in Greek. The writing of Greek is required from the beginning.

A. White's *First Greek Book*, Lessons 1-60. These lessons include the commonest noun and adjective declensions, the Omega system of conjugation, some fundamentals of syntax, connected reading lessons epitomizing the story of the *Anabasis*, and a vocabulary of 600 common Greek words. Mj.

B. (1) White's *First Greek Book*, Lessons 61-80, including a study of the Mi system of conjugation, reading lessons, continuing the *Anabasis* story, and an additional vocabulary of 250 words; (2) the *Anabasis* of Xenophon, Book i, chaps. 1-3. These lessons call for constant review of the material studied in the *First Greek Book*. Mj. ASSISTANT PROFESSOR BRONSON.

2. Xenophon: *Anabasis*.—

A. From Book i, chap. 4, through Book ii, chap. 4, about fifty pages. Exercises in writing Greek based upon the text. Mj.

B. From Book ii, chap. 5, through Book iv, about ninety pages. Greek composition, including a topical treatment of syntax. Collateral readings in Gulick's *Life of the Ancient Greeks*, Grote's *History of Greece*, etc. Occasional tests in translation at sight. Mj. ASSISTANT PROFESSOR BRONSON.

3. Homer: *Iliad*.—

A. Books i-iii.—An introductory study of the *Iliad* in which the literary and linguistic aspects of the poem and the Greek life of the Homeric period are considered. Particular attention is paid to prosody and the peculiarities of epic dialect and syntax. Mj.

B. Books vi-xxii.—The selections read in this course are chosen with a view of giving the student an idea of the plot of the *Iliad* as a whole. They include parts of books vi, ix, xv, xvi, xix, and xxii. The grammar, dialect, and prosody are reviewed, and the text is made the basis of a general literary and elementary critical study of the *Iliad*. Mj. DR. ROBBINS AND MR. NELSON.

COLLEGE

4. Plato: *Apology* and *Crito*.—In connection with these writings Xenophon's *Memorabilia* will be read to furnish a basis for the study of the life and philosophy of Socrates as interpreted by Plato and Xenophon. The course includes a brief outline of Plato's life and works, and a discussion of the syntax and idioms of Plato. Mj. DR. ROBBINS AND MR. NELSON.

5. Homer: *Odyssey*, Books v-xii.—This course aims chiefly at enabling the student to translate Homer fluently and with appreciation. It also includes a review of epic dialect and syntax, and a study of Homeric life and antiquities. Mj. DR. ROBBINS AND MR. NELSON.

6. Herodotus: *Historiae* (Books vii-viii).—The reading covers the invasion of Xerxes including the battle of Salamis. The history of this period and the language and style of the author are studied. Mj. DR. ROBBINS AND MR. NELSON.

7. Advanced Prose Composition.—The course offers to teachers and others an opportunity to perfect themselves in Greek syntax, sentence structure, and the use of particles. The exercises are graded from simple narrative passages in the style of Xenophon to more difficult selections in the style of Plato and Demosthenes. Mj. ASSOCIATE PROFESSOR BONNER.

8. Demosthenes: *Philippics* and Lysias: *Selected Orations*.—A general introduction to Attic oratory. The literary characteristics of the authors studied and the public life and the history of their times are considered. Mj. DR. ROBBINS AND MR. NELSON.

9. **Demosthenes: *De Corona*.**—This oration, admitted to be the greatest one of ancient times, will be studied chiefly from the literary point of view. Mj. DR. ROBBINS AND MR. NELSON.

10. **Introduction to Greek Tragedy.**—Sophocles' *Antigone* and Euripides' *Medea* are read. Attention is given to the various problems connected with these plays, to the character delineation, and the method of presentation. Colateral reading is assigned on the history of Greek tragedy and theater. Mj. DR. ROBBINS AND MR. NELSON.

11. **Aristophanes.**—An introduction to the study of Greek Comedy; intensive study of two plays, probably the *Clouds* and *Birds*; the language and technique of Aristophanes; the external environment and inner spirit of Athenian Comedy. Mj. PROFESSOR PRESCOTT.

12. **History of Greek Literature.**—The course is designed for two classes of students, those who have not studied Greek but desire an intimate knowledge of Greek literature, and those students of Greek who wish a general survey of Greek literature and an opportunity to study the Greek masterpieces more fully from the purely literary point of view. The course includes: (1) a systematic survey of the history of Greek literature down to the Alexandrian period, treating of (a) the origin and development of the various branches of literature, (b) the more important Greek authors, (c) Greek institutions, art, and religion in so far as a knowledge of these is necessary for the understanding of Greek literature; (2) analytical and comparative study of the masterpieces of Greek literature in selected translations. Mj. PROFESSOR MISENER.

Members of the Greek department will endeavor to arrange informal courses for students who are prepared to do work of an advanced nature whenever practicable. Professor Shorey will occasionally guide by correspondence the work of advanced students who propose to attend the University.

NOTE.—Related courses will be found under Departmental Nos. I and XVI.

XII. THE LATIN LANGUAGE AND LITERATURE

ACADEMY

1. **Elementary Latin.**—In two majors is offered the equivalent of the first year of high-school work in Latin. Starting with the rudiments, the aim is to acquaint the student with all the regular forms and common constructions found in Caesar's *De Bello Gallico*, and to give him a large vocabulary.

A. Includes all the declensions of nouns and adjectives, all the conjugations of regular verbs, and the simplest rules of syntax. Mj.

B. Provides (1) a review of verb forms, the conjugation of the irregular verbs and the more difficult constructions in syntax, and (2) the study of Caesar: *De Bello Gallico*, Book I, chap. 1–30, covering the Helvetian War. Mj. MISS PELLETT.

2. **Caesar: *De Bello Gallico*.**—

A. *Book ii.*—This course is intended for students who have completed course 1, but who have had no other practice in translation. Special attention is given to a review of forms and syntax. Exercises in prose composition based upon the text form a part of each lesson. Mj.

B. *Books iii–iv.*—Continues the above. The more difficult Caesarian constructions are carefully studied, and further practice is given in prose composition. Mj.

C. *Book i.*—The latter part of Book i, the war with Ariovistus, is read. While forms, syntax, and prose composition continue to be studied, indirect discourse receive special attention. Students are required to change all the passages in indirect discourse to the direct discourse. M. MISS PELLETT.

3. **Viri Romae.**—A series of twenty lessons based upon the interesting stories of early Rome; open to those who have completed course 1 or its equivalent, and who desire to increase their vocabulary and acquire facility in reading Latin. M. MISS PELLETT.

4. **Nepos.**—Like course 3 in aim and prerequisites. M. MISS PELLETT.

5. **Cicero: *Orationes*.**—

A. *In Catilinam, i-iv*.—This course includes translation, a review of forms and of more difficult constructions, exercises in Latin composition based upon the portion of text assigned in each lesson, and the history of the period. Mj.

B. *Pro Lege Manilia* and *Pro Archia*.—Continues A and includes a careful study of the literary style of Cicero, of all historical references, and exercises in prose composition based upon the portion of text assigned in each lesson. Especial attention is given to translating into good English. Mj. MISS PELLETT.

6. **Vergil: *Aeneid*.**—

A. *Books i-ii*.—The work includes a study of prosody, word-derivation, constructions peculiar to the poets, and the more common rhetorical figures. Mj.

B. *Books iii-vi*.—Continues A and lays emphasis upon elegance of translation, the mythology, and the literary style of Vergil. Mj. MISS PELLETT.

7. **Selections from Roman Writers.**—This course will be of advantage to those who wish to become acquainted with the style of different Roman writers. Mj. MISS PELLETT.

8. **Prose Composition Based on Caesar.**—This course affords (1) practice in writing Latin in connected passages based on Caesar's *De Bello Gallico*, (2) a thorough review of grammatical forms and constructions found in the *De Bello Gallico*; (3) a careful study of synonyms. As the course is informal, special attention can be given to any subject in which the student is deficient. M. MISS PELLETT.

9. **Prose Composition Based on Cicero.**—Like course 8, using the orations as a basis. M. MISS PELLETT.

NOTE.—The courses 1-9 are intended for three classes of students: (1) those who are preparing to enter college; (2) those who wish to study Latin for their own benefit; (3) teachers of Latin who from the topics and questions in each lesson can receive suggestions for their own work, e.g., the points to be emphasized at different stages in Caesar, Cicero, and Vergil.

COLLEGE

10. **Cicero: *De Senectute*.**—The entire essay is read with studies in syntax and exercises in prose composition based upon the text of each lesson. M. MISS PELLETT.

11. **Terence: *Phormio*.**—This play, as a specimen of the highest development of Roman comedy, is carefully studied with regard to composition, presentation, etc. Attention is also given to vocabulary, metrical treatment, and ante-classical forms and constructions. M. MRS. BEESON.

12. **Livy.**—The twenty-first book and a large part of the twenty-second, describing Hannibal's expedition against Rome up to Cannae, are read, with accompanying studies in literary style and syntax and exercises in prose composition, based in each case upon the portion of text assigned in each lesson. Mj. MRS. BEESON.

13. **Horace: *Odes*, Books i-iii.**—This course includes: commentary upon the details of each ode, syntactical, historical, illustrative, etc.; translations, analysis of thought, and general interpretation; and a study of the metrical form. A list of general topics, material for the study of which is to be found in the odes, is presented at the outset, and the student is expected to select one of these for his especial study. Mj. PROFESSOR MILLER.

14. **The Latin Subjunctive.**—The course presents a systematic treatment of the subjunctive according to the latest scientific theories. All the forms found in preparatory Caesar or Cicero are classified. The student may choose to classify the forms either in Caesar or in Cicero, or in such a combination of the two as shall be equivalent in amount to either. The course is intended primarily for teachers. Mj. MISS PELLETT.

15. **Advanced Prose Composition.**—The course offers to teachers and others an opportunity to perfect themselves in Latin syntax, sentence and paragraph

structure. The exercises are graded from simple passages in the style of Caesar to more difficult extracts in the style of Cicero. Prerequisite: three majors of college Latin. Mj. ASSOCIATE PROFESSOR BONNER.

16. Cicero: *De Amicitia*.—Primarily a translation course, with questions based on subjects suggested by the text. The lessons will afford drill in syntax and some practice in the writing of Latin. M. MRS. BEESON.

17. Plautus.—

A. *Captivi*.—This course will deal especially with the linguistic side of Plautus. The vocabulary and scansion will be studied and ante-classical forms and constructions noted. Good idiomatic translation will be required. M.

B. *Trinummus*.—Here the literary side will be emphasized. The course will deal especially with Plautus' style, plot, and delineation of character. As in the first minor, much attention will be paid to translation. M. MRS. BEESON.

18. Tacitus: *Agricola* and *Germania*.—In the reading of these works both their historical importance and their literary merits are brought out. The course is an introduction to the language and style of Tacitus. Mj. ASSOCIATE PROFESSOR BEESON.

19. Cicero: *Epistulae*.—A study of the character and career of Cicero from the evidence afforded by the material contained in one hundred selected letters and from supplementary historical and biographical sources. The course also deals with the peculiarities of epistolary Latin and with the general subject of letter-writing in ancient Rome. Mj. MRS. BEESON.

20. Ovid.—Selections from *Epistulae*, *Amores*, *Fasti*, *Metamorphoses*, and *Tristia*. The object of the course is to make a general study of the life and works of Ovid and of his place in Roman literature. (Informal.) Mj. PROFESSOR MILLER.

21. Seneca: *Tragedies*.—The tragedies of Seneca will be studied for their style, as characteristic of the period, and their content; they will be compared with the corresponding Greek dramas, and their influence upon English drama will be touched upon. Three plays will be read from the Latin text, and the remainder from an English translation. (Informal.) Mj. PROFESSOR MILLER.

22. Horace: *Satires* and *Epistles*.—Selected satires and epistles are carefully read and analyzed, with particular regard to argument, character portrayal, style, and their place in literature. (Informal.) Mj. PROFESSOR MILLER.

23. Horace and Persius: *Satires*.—A brief review of the predecessors of Horace in the field of satire, a reading of selected satires, of Horace and Persius, with a study of the characteristic features of each. (Informal.) Mj. PROFESSOR MILLER.

24. Juvenal.—The object will be to present, through the study of selected satires, a picture of life and manners at Rome under the Early Empire. (Informal.) Mj. ASSOCIATE PROFESSOR BEESON.

25. Topical Studies in the Works of Vergil.—This course presupposes a considerable familiarity with Vergil on the part of the student. It is not a reading course, but the *Eclogues*, *Georgics*, and particularly the *Aeneid* will be the field of investigation under various topics relating to different objects of study in the works of this author. A list of topics will be presented to the student, of which the following are typical: "Vergil's Verse and Its Metrical Peculiarities;" "Poetic Constructions in Vergil;" "Vergil as a Poet of Nature;" "The Aeneid as a National Epic;" "Vergil's Use of Metaphor and Simile." The student will be expected to select a certain number of these topics and, with them in mind, to go through the works of Vergil under direction of the instructor, collect all material bearing upon them, and present his results in finished form. The instructor will at all times furnish such aid as may be necessary and will criticize the results. (Informal.) Mj. PROFESSOR MILLER.

26. Roman Conception of the Immortality of the Soul.—This course is the study of a topic, and is based for material upon a variety of authors: Cicero's *Tusculan Disputations*, i, *De Senectute*, *De Amicitia*, *Epistulae*; Vergil's *Aeneid*,

Book vi; Horace's selected odes; Ovid, Seneca, Persius, etc. (Informal.) Mj. PROFESSOR MILLER.

27. Training Course for Teachers.—The object of the course is to give the teacher working alone and often at a distance from authorities, an opportunity to appeal for assistance and advice along any lines connected with his teaching of Latin. Naturally there are some subjects which nearly all teachers find it profitable to take up in a somewhat formal way, e.g., pronunciation, translation, metrical reading, composition, etc. In addition to these, each teacher will have his own problems to discuss. The course is designed to meet these general and individual needs. (Informal.) Mj. PROFESSOR MILLER.

Members of the Latin Department will endeavor to arrange informal courses for students who are able to do work of an advanced nature, whenever practicable.

XIII. ROMANCE LANGUAGES AND LITERATURES

1. Elementary French.—In two majors is offered the equivalent of the first year of high-school work in French. The writing of French is required from the beginning.

A. The aim is to acquaint the student with the essentials of French grammar, to enable him to turn short English sentences into idiomatic French and vice versa, and to acquire some ability in translation. Mj.

B. This course (1) reviews and extends considerably the knowledge of grammatical principles and the irregular verbs acquired in the preceding major; (2) fixes it by means of exercises in composition; and (3) through drill in translation develops in the student ability to read easy French at sight. Mj. ASSISTANT PROFESSOR NEFF.

2. Intermediate French.—The work of this course follows immediately upon that of "Elementary French—B." The books read deal with life in France and inform the student regarding the national traits and conditions. The exercises in composition take the form sometimes of a résumé on the text read, sometimes of reproduction in French of exercises based on the text. The grammar is studied inductively. Mj. ASSISTANT PROFESSOR NEFF.

3. Advanced French.—Idioms, synonyms, diction; (a) systematic review of elementary French grammar; (b) syntax; (c) reading: Mérimée, *La Chronique de Charles IX*; (d) composition based on the reading. Prerequisite: course 2. Mj. ASSISTANT PROFESSOR DAVID.

4. French Reading.—(A. *Modern Novels*, or B. *Modern Dramas*.)

A. *Modern Novels.*—Anatole France, *Le Crime de Sylvestre Bonnard*; Honoré de Balzac, *Eugénie Grandet*; George Sand, *La Mare au Diable*. Criticism of the novel. Prerequisite: course 3. Mj.

B. *Modern Dramas.*—V. Hugo, *Hernani*; E. Augier, *Le Gendre de M. Poirier*; A. Dumas fils, *La Question d'Argent*; E. Rostand, *Cyrano de Bergerac*. Criticism of the drama. Prerequisite: course 3. Mj. ASSISTANT PROFESSOR DAVID.

5. Advanced French Reading.—(A. *Modern Dramas and Lyrics*, or B. *Modern Novels and Lyrics*.)

A. *Modern Dramas and Lyrics.*—The work will be based on the dramas of 4 B and selections from the lyric poets, especially Chénier, Lamartine, Musset, Victor Hugo; versification; criticism of lyric poetry. Prerequisite: course 4 A. Mj.

B. *Modern Novels and Lyrics.*—The work will be based on the novels of 4 A and selections from the lyric poets, especially Chénier, Lamartine, Musset, Victor Hugo; versification; criticism of lyric poetry. Prerequisite: course 4 B. Mj. ASSISTANT PROFESSOR DAVID.

NOTE.—If A has been chosen in course 4, A of course 5 must be chosen; if B of course 4, B of course 5 must be chosen.

6. Cours de Style.—Principes généraux, exercices pratiques de composition française. Prerequisite: six majors of French or the equivalent. Mj. ASSISTANT PROFESSOR DAVID.

7. Introduction to the Study of French Literature.—A general survey of French literary activity from 1600 to 1850. Prerequisite: six majors of French or the equivalent. Mj. ASSISTANT PROFESSOR DAVID.

8. Molière and the French Comedy in the Seventeenth and Eighteenth Centuries.—

A. *Molière and his Contemporaries.* (17th c.) Mj.

B. *Molière's Successors.* (18th c.) Mj.

These two majors include a study of the lives of the principal authors, their influence on the theater, with intensive study of the following plays: (a) Corneille *Le Menteur*; Molière, *Les Précieuses Ridicules*, *Tartuffe*, *Le Misanthrope*, *L'Avare*, *La Critique de l'École des Femmes*, *Le Bourgeois Gentilhomme*, *Les Fourberies de Scapin*, *Don Juan*, *Les Femmes Savantes*, *Le Malade Imaginaire*. (b) Regnard, *Le Légataire Universel*, *Le Joueur*, *Les Folies Amoureuses*; Lesage, *Turcaret*; Marivaux, *Le Jeu de l'Amour et du Hasard*, *Le Legs*, *L'Épreuve*, *Les Fausses Confidences*; Destouches, *Le Philosophe Marié*; Gresset, *Le Méchant*; Beaumarchais, *Le Barbier de Séville*, *Le Mariage de Figaro*. This is intended to familiarize the student with the masterpieces of classical comedy. Constant comparison will be made between the language of these writers and that of today, and the most unusual constructions will receive consideration. The work is conducted wholly in French. Prerequisite: course 7 or its equivalent. ASSISTANT PROFESSOR DAVID.

9. Molière.—A critical study of all the plays of the great writer. All the reports must be written in French. This secures to the student a thorough course in advanced French composition as well as a comprehensive knowledge of Molière's work. Prerequisite: 9 majors of French. Mj. ASSISTANT PROFESSOR DAVID.

10. Old French: Elementary Course.—The importance of some historical knowledge of French as a part of the teacher's equipment is now generally recognized. Old French is also an indispensable language for research in the modern literatures. This course corresponds to course 46 in residence and may be taken to advantage by students looking forward to resident graduate work. A good knowledge of modern French is necessary, and also some knowledge of German and Latin. Texts: *Le Chanson de Roland*; *Aucassin et Nicolette*; *Erec et Enide*; *La Représentation d'Adam*. For reference: Nyrop, *Grammaire historique de la Langue française*. Vols. I-III. Mj. PROFESSOR JENKINS.

11. Elementary Spanish.—This course is designed to enable the student (1) to attain a clear conception of the fundamental principles of Spanish Grammar and syntax; (2) to read at sight easy Spanish prose; (3) to translate simple English prose into idiomatic Spanish. The lessons are based on Hills and Ford's *Spanish Grammar* and call for the writing of exercises and the translation of about 100 pages of easy Spanish prose. Mj. MISS ENKE.

12. Intermediate Spanish.—This course consists of (1) a more detailed study of the principles of Spanish grammar, as presented in Ramsey's *Textbook of Modern Spanish*; (2) the writing of sentences illustrating these principles; (3) the careful reading of about 350 pages of simple Spanish prose, including Padre Isla's version of *Gil Blas*, *Marianela* by Galdós, and *Zaragüeta* by Carrión-Aza, special attention being directed to points of syntax, idiomatic expressions, and synonyms; and (4) exercises in prose composition based on the reading assignments. Prerequisite: course 11 or its equivalent. Mj. MISS ENKE.

13. Modern Spanish Novels and Dramas.—This course is intended to fit students for the appreciative reading of the best modern Spanish literature. It includes the careful reading of about 450 pages of fairly difficult modern Spanish prose and verse, including *La Familia de Alvarado* by Fernán Caballero, *José* by Palacio Valdés, and *Guzmán el Bueno* by Gil y Zárate, special attention being directed to (1) the more difficult points of syntax; (2) translation into Spanish

of selections based on the reading; and (3) abstracts of the reading assignments to be written in Spanish. Prerequisite: course 12 or its equivalent. Mj. MISS ENKE.

14. Spanish Prose Composition.—This course is designed to give the student a practical command of Spanish as a medium of expression. It may be varied to adapt it to the needs of the student, now tending more to commercial forms of composition, now to those forms used in literature or by the traveler. Prerequisite: course 11 or its equivalent. Mj. MISS ENKE.

15. Don Quixote.—This is mainly an interpretative and critical reading course, embracing the first fourteen chapters of the first part and the first ten chapters of the second part of "Don Quixote." The life of Cervantes and the literary movement of his time will be noticed. In the reading, the peculiarities of syntax, style, and diction, as compared with later Spanish, will be studied. A bibliography of the more important works will be given, enabling the student who may wish to make a more extensive study of the author to do so. Prerequisite: course 13 or its equivalent. Mj. MISS ENKE.

16. Elementary Italian.¹—The aim of this course is to ground the student in the essential grammar of the language, and to equip him with a vocabulary which will enable him to read simple Italian prose. Mj.

17. Advanced Italian.¹—Advanced courses in Italian will be arranged suited to the student's purposes and proficiency. Such courses could be: (1) readings from Dante, with some study of his life and period; (2) selected plays by Goldoni and Alfieri; (3) modern Italian writers: Giacosa, d'Annunzio, Fogazzaro, and others. The student must satisfy the instructor of his ability to enter upon the course proposed. (Informal.) Mj.

Members of the Romance Department will endeavor to arrange informal courses for students who are able to do work of an advanced nature, whenever practicable.

XIV. GERMANIC LANGUAGES AND LITERATURES

1. Elementary German.—In two majors is offered the equivalent of the first year of high-school work in German. The writing of German is required from the beginning.

A. This course aims to ground the student in the essentials of German grammar through the reading of easy idiomatic German and exercises in which special attention is given to the construction of the verb, noun, and adjective. Mj.

B. Continues and extends A to include the passive voice and the subjunctive, and calls for extensive reading of easy prose. Mj. ASSISTANT PROFESSOR VON NOÉ.

2. Intermediate German.—Devoted primarily to the reading of easy modern prose, and incidentally to a rapid review of elementary German grammar. The text read will always serve as the drill-ground for grammar work. Attention will be directed constantly to German idiom, and from time to time the student will be required to reproduce in German what he has read. In the composition work emphasis will be laid upon word order and sentence structure, the knowledge of which is essential to the proper appreciation of the language. Mj. DR. GRONOW.

3. Review of Elementary German Grammar and Syntax.—This course presupposes a previous knowledge of German equivalent to that afforded by courses 1 and 2. It is interpolated here in the regular sequence and is intended for those who for any reason wish to make a brief systematic review of grammar and syntax. It consists of translation and exercises based on short German stories, and of a limited number of original compositions embodying the principles reviewed. It will appeal especially (1) to students who desire to renew their acquaintance with the fundamentals preparatory to further study of the

¹ May be available later in the year.

language; (2) to many German-Americans, and to those who have acquired their knowledge of the tongue by some natural method; (3) to candidates for the Ph.D. degree who are required to pass a preliminary examination in German. Mj. DR. KUEFFNER.

4. Intermediate Prose Composition.—Translation of easy idiomatic English prose into German, intended to lead the student to appreciate the equivalence of English and German idiom; letter writing; *freie Reproduction*. Mj. DR. GRONOW.

5. German Idioms and Synonyms.—The course comprises the study of (1) the method of word formation; (2) grammatical idioms; (3) synonyms, together with a thorough review of syntax. Attention is given to German-English cognates. Composition based upon selected modern German prose affords the basis of instruction. The course will be helpful to those who teach the language in secondary schools. Mj. DR. GRONOW.

6. Modern German Dramas.—This is primarily a reading course corresponding to course 6 in residence. It aims at the acquisition of the foundations of idiomatic German on the basis of the language of the dramas read. A short lesson in German on the subject chosen from the reading is required with each lesson. Mj. DR. HEINZELMANN.

7. Scientific German.—The aim of the course is to enable the student to read German scientific prose. It has the same prerequisites as the preceding course. Short exercises in German composition connected with the text are required. This course is of special value to students of medicine. Mj. ASSISTANT PROFESSOR VON NOÉ.

8. Deutsche Aufsätze und Stilübungen.—An advanced course in composition corresponding to course 11 in residence. It includes a study of masterpieces of the best German stylists and the criticism and development of graded themes. The theme-subjects deal with German life, history, and literature. The aim of the course is to develop the student's ability in essay writing. Of special value to teachers. Mj. ASSISTANT PROFESSOR VON NOÉ.

9. Introduction to the Study of German Literature.—This course covers the ground of course 21 (A, B, and C) in residence, the first required course in German literature. Through a critical study of representative masterpieces and supplementary readings the student is introduced to the whole range of the literature and furnished some knowledge of the notable movements in it. The course is divided into two parts, either of which may be taken without the other. Prerequisite for either major course 8 or its equivalent.

A. This covers the field of German literature from the earliest times through Lessing. The selections from Old High German and Middle High German literature will be read in modern German translations. Mj.

B. This is a continuation of A and follows the same general plan. The works to be studied are chosen from Goethe, Schiller, Kleist, Heine, Eichendorff, Grillparzer, Hauptmann, and Sudermann. Mj. DR. HEINZELMANN.

10. The German Short Story.—The development of the short story (*Novelle*) into an art-form is one of the most interesting phenomena of nineteenth-century literature. The study of this evolution in Germany together with the various forms of the short story extant—the dramatic, the lyric, the historical, the social, etc.—is the object of this course. The student will read, under guidance, selected stories of Kleist, Tieck, Hoffmann, Riehl, Auerbach, Rosegger, Meyer, Keller, Fontane, Liliencron, and others. Reports and essays (in German) will be required. This course may be taken by anyone who has a fair reading and writing knowledge of German. Mj. DR. VON KLENZE.

11. Heine's Prose and Poetry.—The reading of the larger part of the lyrics, the dramas, and the *Reisebilder* will be accompanied by a study of the author's life and the general tendencies of the Romantic movement, and by investigations into the poet's sources and literary technique. The course covers the ground of course 42 in residence. Prerequisite: course 9 B or its equivalent. Mj. DR. HEINZELMANN.

12. Goethe's Lyric Poetry as an Exponent of His Life.—No writer so minutely reflects his moral and intellectual growth in his lyric poetry as does Goethe. A chronological study of his lyrics affords, therefore, a subtle appreciation of his whole individuality. The student will pursue a study of the standard biographies of Goethe, together with his letters and autobiographical writings, while at the same time reading carefully the lyrics written during each period of his life. Essays in German are required throughout the course. Mj. DR. VON KLENZE.

13. Friedrich Hebbel: A Study of Modern German Drama.—Hebbel was one of the most powerful individualities of the nineteenth century and one of the most significant figures of German literature. His drama is the expression of new principles in dramatic literature, which many years later appeared in modified form in the social dramas of Ibsen. A comparison of conceptions of tragedy as found in the classic drama of the Greeks, in the Shakspearean drama, and in the work of modern playwrights will be made, in order to define as clearly as possible Hebbel's contribution. Mj. DR. VON KLENZE.

14. Deutscher Satzbau und Stil.—A sequent to "Deutsche Aufsätze und Stilübungen," corresponding to course 101 in residence. Several long themes of the type of term papers are required. Prerequisite: course 8 or its equivalent. Mj. ASSISTANT PROFESSOR VON NOÉ.

15. Deutsche Abhandlungen.—A number of elaborate dissertations upon subjects of special interest to the student are required. The course is open to those who have passed creditably "Deutsche Aufsätze und Stilübungen" and "Deutscher Satzbau und Stil" or have had equivalent training in German theme writing. Of special value to graduate students and teachers who aim to acquire a high degree of efficiency in German essay writing. Mj. ASSISTANT PROFESSOR VON NOÉ.

16. Outline History of German Literature.—

A. Includes a survey of the development of German literature from the scanty remnants of the earliest period of tribal migrations, heroic romances, and early ballads, through the first period of efflorescence—the twelfth and thirteenth centuries with their troubadours and national epics; the period of humanism and the Reformation, up to the second period of efflorescence—the eighteenth century. Mj.

B. Aims at a more detailed study of prominent writers of the eighteenth century; the Romantic Movement with its best representatives, and the most characteristic novelists, dramatists, and lyricists of the nineteenth century. A is not prerequisite to B. Mj. DR. VON KLENZE.

NOTE.—Prerequisites for both A and B: Students taking either one of these courses must have a good reading knowledge of German as well as the ability to write with some ease. It is advisable that at least one of the courses in some special field of German literature as "The Short Story," or "Goethe's Lyrics," or their equivalents, should precede this course.

17. Gothic.—A consideration of Gothic phonology, morphology, and syntax in connection with the reading of selections from the Bible translation of Wulfila. Intended as a review course or for those who have had philological training. Mj. ASSOCIATE PROFESSOR WOOD.

18. Old High German.—The reading of selections from Braune's *Althochdeutsches Lesebuch*, with reference to the same author's *Abriß der althochdeutschen Grammatik*. This course is a natural sequent of course 17. Prerequisite: course 17 or its equivalent. Mj. ASSOCIATE PROFESSOR WOOD.

19. Old Saxon.—The work will be based on Holthausen's *Altsächsisches Elementarbuch*. Open to those who have who have had courses 17 and 18 or their equivalent. Mj. ASSOCIATE PROFESSOR WOOD.

SCHOOL OF EDUCATION

20. The Teaching of German in Secondary Schools.—The method of teaching German in high schools and academies has undergone radical changes within the last few years. The object of this course is (1) to make the teacher acquainted

with the new methods and their application to the teaching of pronunciation, grammar, composition, reading, and translation; (2) to furnish him an opportunity to discuss his particular problems. Mj. DR. GRONOW.

21. The Teaching of German Literature.—A discussion of the choice of texts, use of literary commentaries, value of student reports upon supplementary reading, and the use of oral quizzes upon prescribed topics. This and similar theroretical discussion is undertaken in connection with the reading of selections from the German classics chosen from the lists recommended for study in each year of the high school and college. Instruction will be conducted entirely in German. Mj. ASSISTANT PROFESSOR VON NOË.

Members of the Germanic Department will endeavor to arrange informal courses for students who are able to do work of an advanced nature, whenever practicable.

NOTE.—Related courses will be found in Department XVI.

XV. THE ENGLISH LANGUAGE AND LITERATURE, AND RHETORIC

ELEMENTARY

1. English Grammar.—A course in practical English grammar, assuming no technical knowledge of the subject, and intended for students who need instruction or review in the fundamental principles of the language, especially with relation to the correct combination of words in sentences. In some cases this course will be desirable as preparation for the following composition courses. the work submitted to the instructor will consist mainly in the correction of faulty constructions, the analysis of sentences, and the writing of original sentences to illustrate the principles discussed in the textbook. [This course commands no credit.] Mj. ASSOCIATE PROFESSOR MARSH.

ACADEMY

2. Preparatory English Composition.—

A. A simple introduction to English composition, intended mainly for the following classes of students: (1) those who have had no formal training in the subject; (2) foreigners with some knowledge of grammar, but without much experience in writing the language; (3) any persons who are not properly prepared for a more advanced course. The work is roughly equivalent to the composition requirements of the first two years of a good high school, consisting in the writing of simple themes based mainly on the student's own experience and observation, and the preparation of exercises illustrating the simpler rhetorical principles. For credit see note below. Mj.

B. A more advanced course than the foregoing, substantially equivalent to the composition work of the last two years in a good high school, and definitely intended to prepare for college composition. Teachers in secondary schools also may find the course helpful in their work. Business and professional men whose early training has been deficient can gain valuable experience in practical composition from this course or the foregoing, according to the extent of the deficiency. The work consists of exercises illustrating all the main principles of rhetoric, and themes of a somewhat more difficult type than those asked for in course A. For credit see note below. Mj. ASSOCIATE PROFESSOR MARSH AND MR. CHERINGTON.

3. Preparatory English Literature.—In two majors the works in English and American literature required for admission to college will be studied. The aim, however, is to make the courses valuable not only to students preparing for college, but also (1) to teachers of English in preparatory schools, and (2) to all persons who wish to take up, either for the first time or by way of review, the more simple and concrete phases of the study of literature. Those who desire the entire high-school work in masterpieces should register for the two majors in succession; those who wish to take the work for review, or to obtain help in

methods of teaching the masterpieces, may choose for themselves. For credit see note below.

A. This course will cover approximately the work in literature of the first two years of the high school, with study of the simpler masterpieces among those listed "for reading" in the list of college-entrance requirements. Mj.

B. In this course the masterpieces listed "for study" will be emphasized, with attention also to some of the more difficult books among those listed "for reading." The work is approximately that of the last two years of high school and directly preparatory for college. Mj. ASSOCIATE PROFESSOR MARSH AND MR. CHERINGTON.

NOTE.—Students who satisfactorily complete and pass the "A's" of both "Preparatory English Composition" and "Preparatory English Literature" will receive credit for the second of the three units in English required for entrance to college; those who satisfactorily complete and pass the two "B's" will receive credit for the third of the three units.

COLLEGE

4. **English I.**—This is designed to be a full equivalent of English 1 (the first course in English composition and rhetoric required of all students in residence) and commands corresponding credit. It presupposes the ordinary training in English composition received in a good high school, and represented in a general way by the preceding courses. More detailed study of the principles of rhetoric, as presented in a more advanced textbook, is made; and a higher standard of theme work, on a variety of topics usually chosen (subject to certain limitations) by the student himself, is expected. The emphasis throughout is placed upon writing of the most practical sort. Mj. ASSOCIATE PROFESSOR MARSH.

5. **English III.**—This course is designed to be a full equivalent of English 3 (the second course in English rhetoric and composition required of all students in residence) and commands corresponding credit. The course aims (1) to give training in structure, and (2) to give instruction and practice in the four forms of composition—exposition, argumentation, description, and narration. To these ends a textbook is required, lesson papers must be submitted, and a final examination taken. The written work will consist of six long themes each from 1,500 to 3,000 words in length, and ten short themes of from 100 to 200 words each in addition to exercises based on the textbook. Admission to the course may be obtained by passing creditably "English I," or by submitting to the instructor an original exposition or argument showing ability. Mj. DR. HURLBURT.

6. **English IV.**—

A. *Exposition—Argument.*—Instruction will be given in pure argument, in the technique of debate, and in persuasive exposition. The work consists of (1) the writing of papers on the theory of these forms of composition; and (2) the writing of two briefs, two arguments, and two expositions. Mj. ASSISTANT PROFESSOR KNOTT AND MR. HILL.

B. *Description—Narration.*—In this course the descriptive study is incidental to the narrative. The work is based on the reading of six novels and a number of short stories. It consists (1) in the writing of papers on the theory of narrative writing as discussed in a text and illustrated in the novels and stories read, and (2) in the writing of sixteen short themes and four long ones—three of these, short stories. The course is designed primarily for those who are interested in the short story, though the exercises aim to set forth, broadly, problems which are characteristic as well of other narrative forms, e.g., the novel. Mj. MR. GRABO.

C. *Magazine Writing.*—This course is devised to meet the needs of those who desire to enter upon magazine writing as a profession. Drill in the following forms, together with some study of their technique, constitutes the work required: (1) book review; (2) editorial; (3) special article. Instruction is *not* given here in the short story form. Mj. MR. GRABO.

NOTE.—Admission to any one of the majors of "English IV" may be obtained in one of two ways: (1) by passing creditably "English III"; (2) by submitting to the instructor a manuscript which meets his requirements.

7. English V.—This course is intended for persons who have passed creditably some one of the majors of "English IV" and who wish to specialize in some particular form of literary production, e.g., the short story, the special article, etc. There is no formal instruction in the elements of style; the instructor criticizes the work submitted and the plan of successive themes, offering suggestions as to topics, helpful reading, etc. Persons other than graduates of "English IV" will be admitted upon the submission of manuscripts displaying a technique adequate to the course. Mj. MR. GRABO.

8. The Development of English Literature.—This course is designed to be the full equivalent of course 40 in residence, the first required course in English literature. It introduces the student to the whole range of English literature in a series of connected masterpieces from Beowulf to the present time. Two volumes of selections from English authors, one of prose and one of poetry, and a short history of English literature are used as the basis of study. The aim is: (1) to give the student first-hand acquaintance with typical parts of the work of each of the leading English writers; (2) to study the place of the masterpieces in the development of English literature, in their relation not only to one another but also to historic events and conditions; (3) to give the student the foundation for an appreciation of literature. The course as a whole affords a broad introduction to the more detailed and critical study undertaken in "English Literature by Periods." Mj. ASSOCIATE PROFESSOR MARSH.

9. An Introduction to American Literature.—A series of studies of American life in American literature. The first few lessons are given over to pre-Revolutionary literature for the purpose of observing the earliest departures from English models and traditions. Chief emphasis is, however, thrown on the poets, essayists, and novelists of the nineteenth century. While the aim of the course is to put the student in the way of obtaining a preliminary acquaintance with the subject as a whole, assigned readings are restricted to selected works of twelve or fifteen representative men of letters, from Irving and Cooper to Lanier and Whitman. Mj. MRS. DAVENPORT.

NOTE.—For admission to any one of the following courses, course 8 or its equivalent is prerequisite.

10. An Introduction to the Study of Shakspeare.—This course, corresponding to course 41 in residence, is planned to give the student a knowledge of Shakspeare's life and work, a familiarity with typical plays of the various periods in his dramatic career, some acquaintance with his relation to his age and its literature, and an introduction to the fields of Shakspearean criticism and scholarship. Especial attention will be paid to Shakspeare's handling of character and plot, to the development of his taste and technique, and to the influence exerted upon him by the literary and the social trends of the time. The following plays will be studied: *Richard III*, *A Midsummer Night's Dream*, *Romeo and Juliet*, *I Henry IV*, *Much Ado about Nothing*, *Twelfth Night*, *Hamlet*, *King Lear*, *Antony and Cleopatra*, and *The Tempest*. Mj. ASSISTANT PROFESSOR BASKERVILL AND MRS. BASKERVILL.

11. English Literature by Periods.—A series of reading courses, corresponding to courses 42–48 in residence, which cover with some minuteness the history of English literature from the middle of the sixteenth century down to 1892. In each major the work consists mainly in the reading of a large number of representative masterpieces of the period, and the preparation of answers to questions based upon this reading. Textbook work in a literary history of each period is assigned and the lesson sheets furnish much supplementary material, such as bibliographies of the required authors, suggestions for study of their principal works, etc. It is not necessary that the series be taken in chronological order, as each course is complete in itself; but those intending to take the whole series are advised to follow the chronological order. The series as a whole is designed to give first-hand knowledge of the chief masterpieces of modern English literature, excepting only Shakspeare's works, which are treated in special courses. Persons who have had course 8 or its equivalent, and who desire to do systematic

reading of English literature without regard to college credit, may also arrange for any of these courses.

A. *English Literature from 1557 to 1642*.—Reading of Spenser (at least one book of *The Faerie Queene* and various shorter poems), Wyatt, Surrey, Sackville, Sidney, Herrick, Milton (minor poems), and other poets; plays by Marlowe, Jonson, Beaumont, and Fletcher, and lesser dramatists both before and after Shakspeare; Ascham's *Schoolmaster*, portions of Lyly's *Euphues* and other works of fiction, Sidney's *Defence of Poesie*, Bacon, Raleigh, and Sir Thomas Browne. Mj.

B. *English Literature from 1642 to 1744*.—Reading of representative prose works of Milton, Taylor, Walton, Pepys, Clarendon, Bunyan, Dryden, Addison, Steele, Defoe, and Swift; poems of Milton (four books of *Paradise Lost*, *Samson Agonistes*, etc.), Dryden, Pope, Thomson, and numerous minor poets; plays by Dryden, Otway, Congreve, Wycherley, and other Restoration dramatists. Mj.

C. *English Literature from 1744 to 1798*.—Reading of novels by Richardson, Fielding, Smollett, Sterne, Johnson, Goldsmith, the so-called "Gothic" romancers, and Fanny Burney; miscellaneous prose by Johnson, Goldsmith, Boswell, Gibbon, and Burke; poems by Gray, Collins, Goldsmith, Chatterton, Blake, Cowper, Crabbe, Burns, and others; plays by Goldsmith and Sheridan. Mj.

D. *English Literature from 1798 to 1832*.—Poems by Wordsworth, Coleridge, Southey, Scott, Campbell, Moore, Byron, Shelley, Keats, Hunt, Hood, Landor; novels by Scott and Jane Austen; miscellaneous prose by Coleridge, Lamb, Hazlitt, DeQuincey, the reviewers, etc. Mj.

E. *English Literature from 1832 to 1892*.—Reading of numerous poems by Tennyson, the Brownings, Matthew Arnold, Clough, the Rossettis, Swinburne, Morris, and others; novels by Dickens, Thackeray, Charlotte Brontë, George Eliot, Meredith, Hardy, and Stevenson; miscellaneous prose by Carlyle, Macaulay, Newman, Arnold, Pater, Ruskin, and Stevenson. Mj.

ASSOCIATE PROFESSOR MARSH.

Courses A-E (or their equivalents) are required of all candidates for the Doctor's degree in English, and at least four of them (or equivalents) for the Master's degree. Hence, though a year of resident study is required for the Master's degree, students may take these required courses by correspondence and later do more highly specialized work in residence. Graduate credit will be given to properly prepared students, who do creditable work in their recitation papers and pass the final examination given on each course. Students not entitled to graduate credit, moreover, may register for any of the courses, the only prerequisite being course 8 or its equivalent.

12. *The Elizabethan Drama*.—This is a series of courses intended to give the student a familiarity with the dramatic movement in England which reached its zenith in Shakspeare. Besides involving a close study of Shakspeare's plays and some of the greater plays of his contemporaries, early and late, these courses deal with the formative influence of contemporary life and thought upon the drama; with Elizabethan dramatic criticism and its more important results, especially as they concern Shakspeare; with matters of literary taste; with the handling of character and plot; with sources and relations; etc. The courses are arranged to give practically a chronological sequence in the study of types, writers, and plays, including the plays of Shakspeare, but each course is treated as a unit, and may be taken separately.

A. *Shakspeare's Predecessors*.—This course, which corresponds to course 84 in residence, includes a brief introductory survey of the mediaeval drama; a more detailed consideration of the Renaissance drama as influenced by the Reformation and humanism, and of the development of new types and new theatrical conditions; and finally a more intimate study of the development of a native romantic drama as revealed in Lyly, Peele, Kyd, Green, and Marlowe. Mj.

B. *Shakspeare's Early Period (1590-96)*.—In this course the experimental comedies, the first group of chronicle plays, and the early masterpieces of Shakspeare are studied. The details of his life, the growth of his art, the influence of

theatrical conditions on his work, and his imitation of contemporary dramatists are considered. The plays studied are: *The Comedy of Errors*, *The Two Gentlemen of Verona*, *Love's Labor's Lost*, *Henry VI*, *Richard III*, *King John*, *Richard II*, *Titus Andronicus*, *A Midsummer Night's Dream*, *Romeo and Juliet*, and *The Merchant of Venice*. Mj.

C. *Shakspere's Middle Period* (1596-1602).—This course is organized to include chiefly the comedies of the middle period of Shakspere's life—the Falstaff chronicle plays, the witty comedies, and the satiric comedies at the beginning of his tragic period. Especial attention is paid to the structure of comedy and to Shakspere's reflection of social life. The plays studied are: *The Taming of the Shrew*, *I and II Henry IV*, *Henry V*, *Julius Caesar*, *Much Ado about Nothing*, *As You Like It*, *The Merry Wives of Windsor*, *Twelfth Night*, *Troilus and Cressida*, *All's Well that Ends Well*, and *Measure for Measure*. Mj.

D. *Shakspere's Later Period* (1602-11).—In this course the great tragedies and the final comedies are studied, with especial emphasis on the art and structure of tragedy and the dramatic seriousness of Shakspere's work. The plays dealt with are *Hamlet*, *Othello*, *King Lear*, *Macbeth*, *Timon of Athens*, *Pericles*, *Antony and Cleopatra*, *Coriolanus*, *Cymbeline*, *A Winter's Tale*, *The Tempest*, and *Henry VIII*. Mj.

E. *Shakspere's Successors*.—This course, the equivalent of course 85 in residence, deals with the history of the English drama from 1600 to 1642. The rise of the comedy of humors and of manners, the perfection and the decadence of tragedy, and the later phases of romantic comedy are treated. Masterpieces of Jonson, Dekker, Heywood, Beaumont and Fletcher, Middleton, Webster, Massinger, Ford, and Shirley, are studied, with attention not only to the characteristics of these writers but to their interrelations, their influence on the course of the drama, and their reflection of social conditions. Mj.

ASSISTANT PROFESSOR BASKERVILL AND MRS. BASKERVILL.

NOTE.—Course 10 or its equivalent is prerequisite for any one of the five majors of course 12. Students who have completed the majors of course 11 or their equivalents may obtain graduate credit in course 12 by prior arrangement with the instructor.

13. *The Growth of the English Novel*.—The historical development of narrative prose fiction in English is traced in outline from the later mediaeval prose romancers and story-tellers to the beginning of the twentieth century. A brief preliminary review of the field of fiction is attempted in the initial lessons—the qualities shared by novelist and poet, the material common to both, the similarities in general construction of the novel and drama; and throughout, the continental influences are noted, sources inquired into, and the modifications in structure and content of the novel in succeeding periods are indicated. Illustrations of the various aspects and principles of the art of fiction are drawn from the representative works selected.

A. *From Sir Thomas Malory to Oliver Goldsmith*.—In this course one work of each of the following authors is read: Malory, Lyly, Sidney, Lodge, Greene, Nashe, Bunyan, Defoe, Swift, Richardson, Fielding, Smollett, Sterne, and Goldsmith. The character-sketch of the seventeenth century, and as it is developed by Steele and Addison in *The Spectator*, is briefly dealt with, as are other literary forms which contributed to, or tended to shape, the modern novel. Mj.

B. *From Mrs. Radcliffe and Godwin to Stevenson and Kipling*.—Beginning with the reappearance in England of romantic prose fiction—the "School of Terror," or the "Gothic" romance, and the "School of Theory"—doctrinaire or revolutionary, one work of each of the following authors is read: Walpole, Mrs. Radcliffe, Godwin, Fanny Burney, Maria Edgeworth, Jane Austen, Scott, Cooper, Hawthorne, Lytton, Dickens, Thackeray, Kingsley, Trollope, Reade, Charlotte Brontë, George Eliot, Meredith, Hardy, Stevenson, and Kipling. The course concludes with a brief consideration of fiction as affected by the scientific movement of the nineteenth century, particularly by physiology and psychology. Mj. MR. HILL.

14. *The Life and Works of Spenser*.—A course, corresponding to course 69 in residence, which considers the *Faerie Queene* and the minor poems; allegory;

the poet's versification; his position and significance with respect to mediaevalism, the Renaissance, and especially Elizabethan poetry. Mj. ASSISTANT PROFESSOR KNOTT.

15. The Life and Works of Wordsworth.—A more detailed examination of the poet's most significant work, especially the *Prelude* and the lyrical ballads, and their significance with relation to the Romantic Movement. Prerequisite: course 11 D, "English Literature from 1798-1832." M. ASSISTANT PROFESSOR KNOTT.

16. The Works of Robert Browning.—The work of this "incorrigible optimist" offers unusual problems in subject-matter and in form. The peculiarities of his style, and the varied forms in which he wrote present abundant material for the study of technique, and of general principles of literary art.

A. *Studies in the Early Poems.*—This course gives detailed consideration to the poems published before 1868, thus including much of Browning's most characteristic and suggestive work. M.

B. *"The Ring and the Book" and Dramas.*—M. MRS. WARREN AND MRS. DAVENPORT.

17. Studies in the Poetry of Tennyson.—The course deals with the most significant works of this representative nineteenth-century poet. Especial attention is given to this place in the development of English poetry, to the characteristic qualities of his verse, and to his close relation to the general currents of thought in his time. The study includes the early poems, *Maud*, *In Memoriam*, *The Idylls of the King*, and minor poems. M. MRS. WARREN AND MRS. DAVENPORT.

18. Representative English Essayists of the Nineteenth Century.—An advanced undergraduate study of six essayists, including a brief preliminary discussion of the appearance in England of the essay, and its development as a literary form. The work is based upon typical essays of Lamb, De Quincey, Macaulay, Carlyle, Ruskin, and Arnold. Newman or Hazlitt may be substituted for De Quincey if desired. The method of study is the biographical and historical, and to a limited extent the philosophical. Emphasis is laid upon the intimate relation of literature to the forces of social life. Mj. MR. HILL.

19. The Makers of American Literature.—This course embraces a study of Emerson, Whittier, Longfellow, Lowell, Holmes, and Hawthorne—the representative writers of that period, of intellectual activity in New England which roughly corresponds with the first half of the Victorian era. The various ways in which this activity expressed itself—in oratory, scholarship, Unitarianism, transcendentalism, and reform—are incidentally examined in so far as they affected or were affected by these writers. Sufficient attention is given to the general history of American literature to make this period intelligible to the student. Mj. MR. HILL.

20. Modern Realistic Fiction.—This course is designed to present the content and method of a typical group of realistic novels. The following works, or their equivalents, will be read: George Eliot's *Silas Marner*, Hardy's *Tess of the D'Urbervilles*, Ward's *Lady Rose's Daughter*, Howells' *A Modern Instance*, Meredith's *The Egoist*, Tolstoi's *Anna Karenina*, Zola's *L'Assommoir*, Frenssen's *Jörn Uhl*, Barrie's *Tommy and Grizel*, Fogazzaro's *The Patriot*. Mj. MRS. WARREN AND MRS. DAVENPORT.

21. The Short Story in English and American Literature.—In connection with a brief résumé of the history of the short story in England and America, students will read, critically, a number of representative stories by Irving, Hawthorne, Poe, Dickens, Bret Harte, Henry James, Page, Cable, Stockton, Davis, Mary E. Wilkins, Hardy, Doyle, Stevenson, Kipling, and others. The critical study will be devoted principally to investigation of the methods by which effectiveness is secured. Mj. ASSOCIATE PROFESSOR MARSH.

22. The Principles of Literary Criticism.—This course presents and compares some of the most influential critical tenets; examines the relations of literature to other arts, and the support given to criticism by recent studies in the psychology of artistic production. Mj. MRS. DAVENPORT.

23. The Celtic Literary Revival.—A study in the literature of the modern Celtic revival presupposes some acquaintance with Celtic myth, legend, and romance. The course, therefore, begins with this subject, following with the living folk literature, fairy tales, folk tales and songs, and then passing to the work of the modern poets and dramatists. Yeats, Synge, Hyde, Lady Gregory, Ethna Carberry, and other writers will be read. M. MRS. DAVENPORT.

24. Elementary Old English.—Grammar and reading, corresponding to course 21 in residence. Mj. ASSOCIATE PROFESSOR MARSH.

25. Advanced Old English.—*Beowulf*.—An informal course in which the whole of the poem is read. Mj. ASSOCIATE PROFESSOR MARSH.

26. Introduction to Chaucer.—An elementary course for students who have had no training in Middle English. Along with the reading of selected poems, there will be a study of the main facts regarding Chaucer and his works. Mj. ASSOCIATE PROFESSOR MARSH.

SCHOOL OF EDUCATION

27. The Teaching of English Composition in Secondary Schools.—This course will include a survey of methods in American and foreign schools, and will outline the problems involved in teaching adolescents the art of literary expression. These problems arise mainly from three circumstances: first, the fact that composition is at the same time a fine art and a tool in every-day business intercourse; second, that like the teaching of literature it is based on the psychology of adolescence; and third, that it is a most important agent in education, being the readiest medium of self-expression. Mj. MRS. DAVENPORT.

28. The Teaching of English Literature in Secondary Schools.—This course proposes a definite aim in teaching based on the function of art in education. The main topics involved are the place of literature in general culture, its special relations to adolescence, the psychology of adolescence, the course of study, and methods of study. Mj. MRS. DAVENPORT.

NOTE.—Related courses will be found in Departments XVI, CLVII.

XVI. GENERAL LITERATURE

This Department offers work to two distinct classes of students: (1) those doing graduate work in comparative literature, for whom a knowledge of the original languages and some previous training in literature are indispensable; (2) those doing undergraduate work, who wish to become acquainted with foreign literatures for the purpose of general culture, and for whom a reading knowledge of the original languages, though desirable, is not necessary. The courses presuppose "English 1" and "The Development of English Literature" or their equivalent.

1. Masterpieces in World Literature.—This course falls in section C of the Department of General Literature in which literature is treated as general culture rather than specialized study, hence no knowledge of any language other than English is assumed. Moulton's *World Literature* will furnish the general point of view, the historic and literary background for the course. This will be supplemented by the reading, wholly or in part, of selected masterpieces, among which will be the five literary Bibles as recognized in the textbook—the Holy Bible, Classic Epic and Tragedy, Shakspeare, Dante, and Milton, and versions of the story of Faust, by collateral studies, readings in comparative literature, and a survey of the strategic points in the development of literature as a science. As an equivalent to General Literature 1 in residence, it is primarily a college course but it is also admirably adapted to the needs of the general reader. Books for

the required reading may be found in any well-selected library or may be borrowed from the University through arrangement with the librarian in charge of this department. Mj. PROFESSOR MOULTON AND MISS SCHRADER.

2. The Literary Study of the (English) Bible.—This course is intended for those who teach or expound the Bible, and for those who merely read it as a part of universal literature. Questions of theology and of historical criticism will be avoided. The aim of the course is (1) to familiarize the student with the literary forms found in the Scriptures under the general divisions of Lyric Poetry, History with Epic, Wisdom Literature, Prophecy, and forms of Address; (2) to show how the separate books of the Bible, when read in their literary sequence, draw together with a literary connection like the unity of a dramatic plot. Moulton's *The Modern Reader's Bible*—in which the books of the Bible with three of the Apocrypha are presented in modern literary form—will be used as text. In the first part of the course Moulton's *The Literary Study of the Bible* will serve for supplementary reading. Mj. PROFESSOR MOULTON AND MISS SCHRADER.

3. Milton and Dante.¹—This advanced undergraduate course comprises the critical study of Milton's *Paradise Lost*, the Epic of Protestantism, and the careful reading (in translation) of Dante's *Divina Comedia*, the Epic of Catholicism. Dante, who interprets all Mediaeval Europe, is the closest analogue of Milton, who represents Puritan England and the whole spirit of Puritanism. They preserve and express in forms of epic poetry the profoundest sentiment and highest spiritual aspirations of their respective ages. To bring out these facts and to present in outline the religious philosophy of each of the poets is the main purpose of this course of study. In the case of the English author considerable attention is given to the form through which the thought reaches the reader, and to the peculiar power which lies in Milton's style. It is presupposed that the student has some knowledge of the nature of poetry in general, of its different varieties, and of the various kinds of rhymes, meters, etc. Mj.

4. Studies in Recent Drama.—In the drama produced in England and on the continent since Ibsen began to write, opportunity is offered for the study of some of the most significant and representative literature of our time. This course offers plays by Ibsen, Bjornsen, Sudermann, Hauptmann, D'Annunzio, Phillips, Jones, Pinero, Shaw, Moody, Sardou, Rostand, Echegaray, Yeats, and Maeterlinck. Mj. MRS. WARREN AND MRS. DAVENPORT.

5. Homer and Ancient Tragedy for English Readers.—The aim of this course is to present Greek epic and tragedy from a purely literary point of view. For this reason it is admirably adapted to the English student who desires a knowledge of Greek masterpieces and to the student of Greek language who wishes to broaden his literary culture. The course will include a study of the poetic heroes of the Argonautic Expedition and of the Trojan War. The works will be studied, not in the chronological order of their authorship but in the order of the story sequence. Under the myth of the first generation *The Argonauts* of Apollonius, *Medea* of Euripides, and *Jason* of William Morris (a modern reconstruction) will be read. A larger selection of works will be included under the myth of the second generation, including the *Iliad*, the *Odyssey*, and tragedies of Aeschylus, Sophocles, and Euripides that touch the story of the Trojan War. Besides noting the place these works occupy in the progressive development of a story sequence, both epics and tragedies will be studied with reference to structure and general technique. Vergil's dependence upon Homer and his influence upon mediaeval literature will also be noted. Mj. PROFESSOR MOULTON AND MISS SCHRADER.

6. German Literature (in English).—This course attempts a survey of the principal movements in German Literature from its first appearance to the present day. Representative authors are studied and constant attention is given to the connection of social and intellectual life with German poetry. Frequent parallels are drawn with corresponding developments in English literature. Mj. DR. HEINZELMANN.

¹ May be available later in the year.

7. Goethe's Life and Works.—Goethe, who has been called by Matthew Arnold, "the greatest poet, the clearest, the largest, most helpful thinker," will be studied mainly from the point of view of his contribution to the world's history of thought and culture. The relation of his work to the great cultural movements of this age will be studied in detail, and a careful literary analysis will be made of the chief dramas, novels, and lyrics. The work will consist (1) in answering critical and interpretative questions on the text; (2) in writing brief studies on topics suggested by the cultural setting, by lines of thought to be followed through several of Goethe's works, or by comparison with related works in other literatures. Mj. DR. KUEFFNER.

XVII. MATHEMATICS

ELEMENTARY

1. Complete Arithmetic.—This course is intended as a review of the general principles of arithmetic. While serving the student, it will be helpful to grade teachers preparing for examination. Part I treats of general number, the four fundamental operations, factoring, fractions, and practical applications of denominate numbers. Part II drills upon the applications of percentage, and actual methods of modern business. Part III considers ratio and proportion, powers and roots, mensuration, and the metric system. Numerous problems are given to illustrate all points. Hamilton's *Complete Arithmetic*. [This course does not command credit.] Mj. ASSISTANT PROFESSOR HOOVER.

ACADEMY

2. Elementary Algebra.—

A. This course is designed for beginners and deals in a very simple way with the elementary principles of algebra. It will prove especially helpful to high-school students who have found the subject a difficult one, since special emphasis is laid upon type-forms and modern methods of instruction. The principal topics discussed are: the four fundamental operations of algebra, factoring and its applications, together with an introduction to the subject of graphs. The work is based upon selections from Milne's *Standard Algebra*. [This course by itself does not command credit.] M.

B. This course presupposes some acquaintance with the subject, and treats of general number, algebraic number, the four fundamental operations, integral algebraic equations, type-forms in multiplication and division, factoring with the usual applications, fractional and literal equations in one unknown number, interpretation of solutions of problems, simultaneous linear equations, with solutions of numerous problems and interpretations. Every topic is illustrated by many examples. The theory is thorough and rigorous. Fisher and Schwatt's *Higher Algebra*. Mj.

C. Continues B, taking up irrational numbers, surds, imaginary and complex numbers, quadratic equations, equations leading to quadratics, roots of quadratic equations, adaptation to questions in maxima and minima, equations of higher degree than the second, irrational equations, simultaneous quadratic and higher equations, ratio, proportion, variation, theory of exponents, the progressions. Fisher and Schwatt's *Higher Algebra*. Mj. ASSISTANT PROFESSOR HOOVER.

3. Plane Geometry.—The theory is well illustrated by numerous original exercises. The first major comprises the first two books; the second, the remainder of plane geometry. Wentworth's *Plane and Solid Geometry*. (Revised.) DMj. ASSISTANT PROFESSOR HOOVER.

4. Solid Geometry.—Here, as in plane geometry, emphasis is laid on exercises calling for original work. Wentworth's *Plane and Solid Geometry*. Mj. ASSISTANT PROFESSOR HOOVER.

Descriptive Geometry.—A series of four majors. (Cf. description under Drawing, C.) MR. FERSON.

COLLEGE

5. Plane Trigonometry by the Laboratory Method.—It is one of the tenets of the laboratory method of mathematical instruction that the student shall approach each principle and each problem from at least two of the following stand-points: the graphical (by use of drawings, generally to scale), the analytical (by use of formula), the arithmetical (by use of tables), and the mechanical (by simple experiments or by appeal to simple physical principles). Experience shows that the total effect of the views from the various angles gives greater mastery than a single view, however clear. At the outset of the course in trigonometry, the graphical and arithmetical views are emphasized. The obvious properties of the graph (on square-ruled and polar paper) lead naturally to all the fundamental formulae of plane trigonometry. This method is in marked contrast to the current method by which each formula makes its appearance from some unseen source, to be followed by a more or less artificial proof. When the concepts and formulae of trigonometry are thus naturally acquired, the student proceeds to the usual computations and applications as given in a standard text. But graphical computation also is emphasized, first on pedagogical grounds, next for purposes of check, and finally for its intrinsic importance to engineers and others who require fairly accurate, but rapid solutions. Mj. PROFESSOR DICKSON.

6. Plane Trigonometry.—The student is expected to examine the theory of the subject carefully and give evidence of his mastery of it by working numerous examples. Special attention is given to computation in which Hussey's or Bremikers' tables are used. The course covers about the first two hundred pages of the text, Granville's *Plane and Spherical Trigonometry*. For a review and more advanced course in this subject, Chauvenet's text (cf. course 8) is used. Mj. ASSISTANT PROFESSOR HOOVER.

7. Plane Surveying.—This course is designed for those who have completed enough college mathematics, particularly enough trigonometry, to enable them to take up plane surveying immediately. The work covers the ground usually covered in a first course in plane surveying in American universities. The instruments and appliances most serviceable for the regular work of the surveying engineer will be indicated in the course. The problems are practical, taken from field notes in actual surveying classes. Mj. PROFESSOR MYERS AND MR. BRESLICH.

8. Spherical Trigonometry.—The work is based on the latter part of Chauvenet's *Plane and Spherical Trigonometry*. (Informal.) M. ASSISTANT PROFESSOR HOOVER.

9. College Algebra.—This includes chapters on the binomial theorem for a positive integral exponent, logarithms developed to application of tables to computation, compound interest and annuities, in permutations and combinations, probability, variable and limits, infinite series, binomial theorem for any rational exponent, undetermined coefficients, summation of series, exponential and logarithmic series, determinants, and theory of equations, with abundant exercise in the solution of illustrative examples. Fisher and Schwatt's *Higher Algebra*. Mj. ASSISTANT PROFESSOR HOOVER.

10. Plane Analytic Geometry.—The student with good command of the preceding courses secures in this course a control of the elementary processes and principles of the powerful science of analytic geometry—a science of systematic application of algebra and trigonometry to the study of problems of geometry. For beginners, Smith and Gale's *Introduction to Analytical Geometry, Plane and Solid*, is used. (Formal.) For those having some acquaintance with the science, Loney's *(Plane) Co-ordinate Geometry* (informal, Mj.) or Fine and Thompson's *(Plane and Solid) Co-ordinate Geometry* (informal, Mj.) is used. Mj. ASSISTANT PROFESSOR HOOVER.

11. Solid Analytical Geometry.—C. Smith's *Solid Geometry*. (Informal.) Mj. ASSISTANT PROFESSOR HOOVER.

12. Calculus.—This subject is presented in two majors, the first treating of the differential, and the second, of the integral calculus. The fundamentals are carefully studied and find extended and varied application in the selected problems. Osborne's *Differential and Integral Calculus*. DMj. ASSISTANT PROFESSOR HOOVER.

13. Calculus with Applications.—This is designed for students intending to pursue the study of pure or applied mathematics as well as for those who are actively engaged in work which presupposes a knowledge of calculus. An important feature throughout is the large number of practical applications. In dynamics, physics, mechanical and electrical engineering a working knowledge of the calculus is essential. Therefore in the exposition of the theory dynamical, physical, and geometrical illustrations are freely used. It is the aim to acquaint the student with the kind of mathematics which he will find useful and to cultivate the power of employing the principles of the calculus, at first to simple, then to more difficult practical problems. The course is divided into three parts:

A. This deals mainly with the differential calculus and applications. Mj.

B. Chief attention is given to the integral calculus and applications. Mj.

C. This provides (1) a continuation of the treatment of several topics begun in A and B; (2) applications of the calculus; (3) a brief treatment of differential equations. Mj.

Prerequisite: solid geometry, trigonometry, college algebra, and plane analytic geometry. MR. BRESLICH.

14. Advanced Calculus.—Especially attention is given to the theory. Byerly's *Differential and Integral Calculus* (latest edition). (Informal.) DMj. ASSISTANT PROFESSOR HOOVER.

15. Analytical Mechanics.—An elementary course, requiring a good working knowledge of the previous courses. The main divisions of the subject, statics and dynamics, are well illustrated by typical examples. Bowser's *Analytical Mechanics*. Mj. ASSISTANT PROFESSOR HOOVER.

16. Elements of Theories of Probability and of Least Squares.—In this course enough of the mathematical theory will be given to fit the student to pursue the following course with profit. The fundamental conceptions are carried far enough to put the student in practical possession of the theories of these subjects. Mj. PROFESSOR MYERS AND MR. BRESLICH.

17. The Theory of Errors.—This course requires a fair academic knowledge of enough differential and integral calculus to make clear the meaning and use of the probability-integral. It will have little to do with the theory of probabilities or of least squares further than relates to the discussion of erroneous observational data and the best-known and most practicable methods of eliciting from such data their content of truth. Mj. PROFESSOR MYERS AND MR. BRESLICH.

18. Advanced Theory of Equations.—The earlier part of this course gives a very complete treatment of the theory of equations; the latter part includes determinants, symmetric functions, invariants, transformations, substitutions, and groups. Burnside and Panton's *Theory of Equations*, fifth ed. (Informal.) DMj. ASSISTANT PROFESSOR HOOVER.

19. Differential Equations.—This course presupposes a good working knowledge of calculus. Johnson's *Treatise on Ordinary and Partial Differential Equations*. (Informal.) DMj. ASSISTANT PROFESSOR HOOVER.

20. Projective Geometry.—Veblen and Young's *Projective Geometry*. (Informal.) DMj. PROFESSOR MOORE.

21. Introduction to Analysis.—A somewhat critical study of the fundamental elementary notions of Analysis. Hardy's *A Course in Pure Mathematics*. (Informal.) DMj. PROFESSOR MOORE.

GRADUATE

22. History of the Science of Mathematics.—This course is intended to put the student in possession of a knowledge of the most fruitful epochs and of the

most salient influences of mathematical history; to make him more keenly appreciative of the fact that his science is and always has been a growing science, to inform him that the attitude of mind exhibited by the works of the great mathematicians is most conducive to progress today; in short, to assist the mathematical student to identify himself more intelligently with those men and movements which are making for mathematical advance at the present time. Mj. PROFESSOR MYERS AND MR. BRESLICH.

23. History of the Teaching of Elementary and Secondary Mathematics.—Especial attention is here given to the historic order of evolution of the subject-matter of arithmetic, algebra, geometry, and trigonometry, and to the ideas which, among the various peoples who have contributed to these subjects, have determined the place and functions of these subjects from age to age, in the education of the youth. The work will be conducted from the higher point of view of the teacher and with reference to the meaning, for current teaching of these subjects, of the historic stages through which they have passed to reach their present status in school curricula. Mj. PROFESSOR MYERS AND MR. BRESLICH.

24. Advanced Analytical Geometry.—Charles Smith's *Conic Sections*, with chapters on trilinear co-ordinates, reciprocation, etc. (Informal.) Mj.; or Whitworth's *Modern Analytical Geometry*, limited to the trilinear and quadrilinear notation (informal, DMj.); or Salmon's *Conic Sections*, extended to include the invariant theory, involution, projection, etc., a standard treatment. (Informal.) DMj. ASSISTANT PROFESSOR HOOVER.

25. Differential Equations.—Forsyth's *Differential Equations*. (Informal.) DMj. ASSISTANT PROFESSOR HOOVER.

26. Spherical Harmonics.—This course gives chief attention to such special forms of partial differential equations as integrate into the standard series and functions called for in advanced studies in heat, light, vibration, electricity, and gravitation. The course will be of special value to students or teachers of mathematics, advanced physics, mechanics, and astronomy, whose mathematical training has not been as extended as it should have been. Emphasis will be laid about equally upon academic and pedagogic phases of study. Practical electricians and engineers of good attainment will find the course especially helpful to them. Mj. PROFESSOR MYERS AND MR. BRESLICH.

27. Theory of Functions of a Real Variable.—Hobson's treatise on the subject will be used. (Informal.) DMj. PROFESSOR MOORE.

28. Theory of Functions of a Complex Variable.—Burkhardt's *Einführung in die Theorie der analytischen Funktionen*. (Informal.) DMj. PROFESSOR MOORE.

29. Algebra.—Weber's *Lehrbuch der Algebra*. (Informal.) DMj. PROFESSOR MOORE.

30. Theory of Numbers.—Bachmann's *Zahlentheorie*. (Informal.) Mj. PROFESSOR MOORE.

31. General Analysis.—A study of classes of functions of a general variable. based on Moore's *Introduction to a Form of General Analysis*. Prerequisite: a knowledge of the theories of convergent series and of continuous functions. (Informal.) Mj. or DMj. PROFESSOR MOORE.

SCHOOL OF EDUCATION

32. Review Course in Mathematics for the Elementary School.—This is designed primarily for the review and restudy, from the teacher's point of view, of the subject-matter upon which the mathematical work of the elementary schools should be based. It deals largely with the applications of mathematics to quantitative problems and questions of school environment and everyday life. The number work of geography, nature-study, commerce, business, of construction, and of the industries will receive special emphasis. Out of work drawn from these various sources the science of arithmetic will be derived. The bulk of the work will consist in the actual solution of problems drawn from modern life and

representing real conditions. The course will be given under the following heads: (1) work in counting, indefinite comparison and measurement, covering the period from Grade I to Grade V, inclusive; (2) work in direct measurement, definite comparison, and ratio, covering the period from Grade III to Grade VII, inclusive; (3) direct and indirect measurement and comparison, covering the period from Grade V to Grade VII, inclusive; (4) observational and experimental geometry; inductive geometry and generalized arithmetic, covering the period from Grade V to Grade X, inclusive. [This course commands School of Education credit only.] Mj. PROFESSOR MYERS AND MR. BRESLICH.

33. Pedagogy of Mathematics of the Elementary Schools.—This course will be based upon the preceding course or its equivalent, and will deal with its educational aspects and pedagogical justifications. While concerning itself chiefly with modern reasons and methods for the teaching of arithmetic, it will not ignore the historical forces and factors out of which the best modern procedure has been evolved. Laboratory and fieldwork in mathematics-teaching will be studied, and the psychological grounds for these means of imparting mathematical knowledge will be recapitulated. The kind and place of elementary geometry and algebra in the grades will be considered. The following synopsis will indicate the nature of the work: (1) correlated, applied, and formal number work in grades I to V; (2) theoretical and practical arithmetic of business, of the industries, of elementary science, and of the builder's trade; (3) such geometry and algebra as the pupil is ready for and as will properly graduate his steps toward the high school; (4) the correlation of these three lines of work into an organic whole for the elementary pupil. Mj. PROFESSOR MYERS AND MR. BRESLICH.

34. The Psychology of Number.—The work of this course requires a good knowledge of the subject of arithmetic and some power of abstract thought. Questions having to do with the psychological genesis, and growth of the number concept are examined. The psychologic grounds for and against the ideas which have dominated pedagogic method in the elementary mathematics are critically examined. The variable unit conception of number is studied with special care. The purpose of the course is to make teachers of elementary mathematics clearly conscious of the function of this subject in elementary education, thereby rendering this practice immune from contagion of shallow mechanical devices as methods of training the number faculty of children. Mj. PROFESSOR MYERS AND MR. BRESLICH.

35. Teachers' Course in the First Two Years of Secondary Mathematics.—This course covers the essentials of the work in mathematics usually taught in the first two years of the high school. The subjects, algebra and geometry, are related to each other and to other topics not usually treated in the first two years. Thus trigonometry is introduced in the second year leading to the solution of the right triangle and simple trigonometric equations. The course serves as a review from the point of view of the teacher, it suggests methods of presenting the subject-matter to high-school classes, and brings the teacher into close touch with modern ideas and methods. It presents the work under the aspect of unified mathematics. DMj. PROFESSOR MYERS AND MR. BRESLICH.

36. The Teaching of Secondary Mathematics.—This course presupposes a good knowledge of high-school geometry and algebra. A knowledge of plane trigonometry is desirable, though not required. The course will deal with the problems of the high-school teacher so far as related to the actual work of the classroom. Considerable work in gathering real material and preparing plans for topics of local, general, scientific, social, or industrial interest will be required. The following summary will show the phases of high-school mathematics-teaching to be dealt with: (1) high-school arithmetic, geometry, algebra, and physics taught abreast during the first four years; (2) laboratory work in geometry, algebra, trigonometry, and elementary mechanics during the second and third years; (3) laboratory and fieldwork in secondary mathematics and sciences, together with much abstract work in the third and fourth years; (4) the correlation of this work into a unified mathematical whole. Mj. PROFESSOR MYERS AND MR. BRESLICH.

37. The Teaching of College Algebra, Trigonometry, and Analytics.—A good academic knowledge of these subjects is required for admission to this course. The following topical enumeration will suggest the nature of the questions considered: (1) the purpose of college algebra, trigonometry, and analytics in the curriculum of the college: (a) viewed from the teacher's standpoint, (b) viewed from the student's standpoint; (2) method of teaching these subjects as determined by this purpose; (3) the correlation idea as applied to Freshman college mathematics; (4) the laboratory method in Freshman college mathematics; (5) use of graphical work early and all along; (6) applications of these subjects in teaching them; (7) dangers of this teaching becoming too abstract; (8) order and sequence of special topics. Any recent text in each of these subjects will answer. Mj. PROFESSOR MYERS AND MR. BRESLICH.

History of the Teaching of Elementary and Secondary Mathematics.—(Cf. description under Mathematics 23.) Mj. PROFESSOR MYERS AND MR. BRESLICH.

History of the Science of Mathematics.—(Cf. description under Mathematics 22.) Mj. PROFESSOR MYERS AND MR. BRESLICH.

The History of Astronomy.—(Cf. description under Astronomy 2.) Mj. PROFESSOR MYERS AND MR. BRESLICH.

XVIII. ASTRONOMY

1. Descriptive Astronomy.—An elementary general culture course designed: (1) to furnish an idea of the principles, methods, and results of the science; (2) to show the steps by which the remarkable achievements in it have been attained; and (3) to unfold that extended horizon which astronomy has laid open. This work covers the recent investigations respecting the origin and development of the solar system. Moulton's *Introduction to Astronomy*. (Informal.) Mj. PROFESSOR MOULTON AND ASSISTANT PROFESSOR MACMILLAN.

2. The History of Astronomy.—This is a culture course on the subject for persons who desire to familiarize themselves with the scientific ideas, methods, and results that have determined scientific progress down to recent times. The history of no science so fully exhibits the complete scientific method as does the history of this oldest, most complete, and most exact of all the sciences. A careful study of it may well constitute a part of a liberal education. It is both stimulating and directly helpful to teachers of high-school science and mathematics. A real basis for much of the high-school mathematics is furnished by supplying the astronomical setting from which it sprang. Mj. PROFESSOR MYERS AND MR. BRESLICH.

3. Celestial Mechanics.—A treatment of the dynamics of the solar system, including the contraction theory of the heat of the sun, the attraction of bodies, the two-body problem, the general integrals of motion, the three-body problem, perturbations, and determination of orbits. Moulton's *Introduction to Celestial Mechanics*. Prerequisite: course 12 in mathematics or its equivalent. (Informal.) DMj. PROFESSOR MOULTON AND ASSISTANT PROFESSOR MACMILLAN.

XIX. PHYSICS

1. Elementary Physics.—

A. Mechanics, Molecular Physics, and Heat.—This course corresponds essentially to the first major of course 1 in residence, and is designed to cover the first half-year's work in elementary physics as given in high schools and academies. A text is followed rather closely in the reading lessons, supplemented by new problems and references to other textbooks. The apparatus for the required laboratory work, together with detailed instructions for setting it up and performing the experiments, are packed in a special case and shipped to the student. Reports on both the reading and laboratory work are submitted by the student for approval or correction. A deposit of \$15 is

required for the loan of the apparatus. This will be refunded when the same is returned intact, less expressage and \$3, the loan fee. Mj.

B. *Electricity, Magnetism, Sound, and Light*.—A continuation of course A and the equivalent of the second half-year of high-school physics. The plan for text and laboratory work laid down under course A is followed in this course. A deposit of \$15 is required for the loan of apparatus. This will be refunded when the same is returned intact, less expressage and \$3, the loan fee. Mj. PROFESSOR MILLIKAN AND MR. MOORE.

NOTE.—Courses A and B together constitute the admission unit in physics.

XX. CHEMISTRY

1. **General Inorganic Chemistry** (sequel to High-School Chemistry).—The two majors into which the work is divided furnish a review and a continuation of "Elementary Chemistry" and form the link between the average high-school course in chemistry and "Qualitative Analysis." They correspond to courses 2S and 3S in residence. In view of the fact that different students will have different degrees of preparation, the number of lessons may be varied by omitting such parts of the subject as the student may already have mastered; in this way the work will be adapted to individual needs, and waste of time and effort will be avoided. Students must provide themselves with a balance sensitive to one centigram, with weights 50 gm. to 0.01 gm., and must have access, at least, to a barometer. This apparatus cannot be loaned. The rest of the apparatus and the reagents for course A will be loaned for a deposit of \$25, that for course B for \$30. When the apparatus is returned the deposit will be refunded, less the cost of packing, breakage, carrying charges, and the loan fee, \$1.50.

A. This course includes a study of the metallic and non-metallic elements and their chief compounds. It includes also the study of the laws and principles of the science and their use in explanation of chemical phenomena. The laboratory work, which is an important part of the course, affords opportunity for gaining direct knowledge of the different substances, their modes of manufacture, and their properties. In the choice of illustrations preference is given to the industrial and other applications of chemistry. Prerequisite: a course in inorganic chemistry as ordinarily given in high schools. Mj.

B. Continues course A. Mj. DR. RAIFORD.

2. **Qualitative Analysis**.—The second year of college work in chemistry is offered in the following three majors. The apparatus and the reagents for any one of them will be loaned for a deposit of \$30. If only the set of sixty glass stoppered bottles, required for the necessary solutions, is needed, they can be loaned for a deposit of \$6. The deposit will be refunded when the apparatus is returned, less deductions for the loan (\$1.50 for the apparatus, \$3.50 for the chemicals, \$0.50 for the bottles), carrying charges, and broken and missing parts. An extra charge of \$1 per major is made for "unknowns."

A. This course aims to present the fundamental methods of qualitative analysis. The analytical reactions of the most important metals and acids are studied. This is done in such a way that the student learns the art of performing tests, and comes to understand how the methods of separation and detection are based upon a judicious selection and arrangement of these tests. During the course each student analyzes a number of simple salts, and a few mixtures which contain, in each case, only the metals or acids of a single group. Qualitative analysis has been modified by the influence of physical chemistry. The theories of solution and of electrolytic dissociation, and the study of problems in chemical equilibrium have all contributed to furnish analytical chemistry with a scientific foundation which it never possessed before. Course A is planned to develop the subject with this scientific, theoretical foundation and at the same time to give a thorough foundation in *systematic analysis*. Prerequisite: "General Inorganic Chemistry" (A and B) or the equivalent. Mj.

B. Continues course A and gives the student practice in the analysis of simple salts, leading up to the analysis of simple mixtures, and finally, to rather

difficult mixtures in which the metals and acids are to be determined. Fifteen to twenty-five "unknowns" will be analyzed. *Mj.*

C. Continues course B and requires the analysis of complicated mixtures, and especially the analysis of minerals and commercial products. *Mj.* PROFESSOR STIEGLITZ.

XXI. GEOLOGY

ACADEMY

1. Physical Geography.¹—An elementary course covering the ground of standard high-school work in the subject. It gives mainly general physiographical information, furnishes an introduction to the science, and lays emphasis on the relation between man and his physical environment. Topographic maps and such fieldwork as proves possible in the individual case are used as bases for the laboratory work. The course commands one-half unit of admission credit. *Mj.*

COLLEGE

2. Physiography.—The course embraces the following general subjects: (1) the form of the earth as a whole, and its relation to other members of the solar system, particularly the sun and the moon, with the consequent changes in the length of day and night and the seasons; (2) the atmosphere—its constitution, temperature, pressure and movements, weather changes and climate; (3) the ocean—its constitution, temperature, movements, geologic activities, coastline phenomena; (4) the land—the geologic processes by which the earth's topography has been chiefly determined, and the varied topographic types which result therefrom, including the study of the origin and development of plains, plateaus, river valleys, mountains, volcanic cones, islands, and seashore features. The effects of man's physical environment upon his distribution, his habits, and his occupations will be continually emphasized. Topographic maps and folios will be studied, and the maps will be used in connection with land forms. The rocks and minerals forming the earth's crust will be treated as fully as the course permits. The last lessons will give the student some opportunity to do individual fieldwork. Laboratory methods will receive attention throughout the course. The course covers the ground of course 1 offered in residence, and is suited to the needs of those who teach physical geography and physiography in preparatory schools. *Mj.* ASSISTANT PROFESSOR CALHOUN.

3. General Geology.—This course treats of the leading facts and principles of geology, and the more important events of geological history. It embraces the following general subjects: (1) the materials of the earth; (2) physiographic geology—the work of atmosphere, running water, glaciers, waves and currents, and organic agencies treated in a manner to supplement the physiographic studies of course 2; (3) volcanic, diastrophic, and structural geology; (4) historical geology—a systematic study of the development of the series of geological formations, with special reference to the evolution of the North American continent, and the historical development of life forms; (5) economic geology; (6) a special general geological report on a particular area in the student's own vicinity. This course covers the ground of course 5 in residence, and is adapted to the needs of teachers in high schools and academies, to those interested in economic geology, and also to students not intending to specialize in geology. Course 2, while desirable, is not a prerequisite. *Mj.* MR. DONNELLY.

4. Interpretation of Topographic and Geologic Maps.—This course is intended especially to introduce teachers of high-school, normal-school, and college grade to modern methods of laboratory work in physiography and general geology. It may also be taken by teachers of nature study in the grades, and by those interested in regional physiographic problems. It will serve as a basis for the study of the physiographic features of widely separated regions in the United States, and as a supplement to the physiographic studies of courses 2 and 3.

¹ May be available later in the year.

The course assumes that the successful teaching of physiography must be accompanied by a clear understanding of topographic maps, and by their continued use. It is based on topographic maps of the United States Geological Survey, and a guide to their interpretation, and includes: (1) general principles in the interpretation of topographic maps; (2) topographic forms resulting from the work of wind, ground water, running water, glaciers, oceans and lakes, diastrophic movements, and vulcanism; (3) interpretation of the physiographic history of specially selected regions, on the basis of topographic maps; and (4) enough work with geologic maps to show something of the connection between geologic structure and topography. Prerequisite: a knowledge of physiography equivalent to that afforded by either course 2 or 3. M. ASSISTANT PROFESSOR TROWBRIDGE.

5. Economic Geology.—This course is designed to give a general knowledge of the principles governing the formation and occurrence of the more important ores and non-metalliferous deposits, and of the conditions, commercial and otherwise, which limit their exploitation. It covers the study of (1) structural, materials—including building stones, clays, limes, mortars, and cements; (2) fuels—including coal, petroleum, and natural gas; (3) principles controlling the deposition of metalliferous ores—including the nature and genesis of ores, the forms of ore bodies, and their relations to the structural features of the containing rocks, the formation of cavities in rocks, underground waters, their composition, circulation, etc.; (4) ores of metals—including iron, copper, lead, zinc, gold, and silver. No attempt will be made to cover the entire field, but typical districts or occurrences will be studied in each case. Incidentally it is hoped the student will learn how to study a district independently, and to that end he will be put in touch with the general literature of the subject. The student is expected to be familiar with the common rocks and minerals. Prerequisite: course 3, or a practical knowledge of geology gained by experience in mining, etc. Mj. ASSOCIATE PROFESSOR EMMONS.

XXI A. GEOGRAPHY

1. General Geography.—The scope of geography, relation to other subjects, the earth as a member of the solar system, a study of land forms, climate, soils, minerals, plants, and animals, with reference to man's distribution and social development. Primarily for teachers of geography in public schools who have not had special training in the subject. Mj. MISS LANIER.

2. Influence of Geography on American History.—A study of the geographic conditions which have influenced the course of American history; their importance as compared with one another, and with non-geographic factors. Mj. MISS LANIER.

SCHOOL OF EDUCATION

3. The Teaching of Geography in the Primary Grades.—This course, corresponding to course 1 in residence, is designed for teachers, supervisors, and principals. The main topics considered are: (1) home geography—a study of the products, industries, and physical aspects of the region in which the student is located; (2) foreign geography—a consideration of regions which best illustrate the geographic control of cold (Greenland), heat and moisture (Amazon basin), drought (Arabia); (3) selection and adaptation of material best suited to the first four grades. Mj. ASSOCIATE PROFESSOR BABER.

4. The Teaching of Geography in the Grammar Grades.—The aim of the course is to consider the principles underlying the selection and adaptation of material in continental geography for the grammar grades, through the study of Eurasia. The subjects treated are: (1) relief and its causes; (2) climate; (3) distribution of vegetable and animal life; (4) peoples and their industries. A detailed study is made of Europe, India, China, and Japan in these respects. Special emphasis is placed upon the educative value of modeling and the drawing of maps and type landscapes, and training in work of this kind is afforded in the course. Mj. ASSOCIATE PROFESSOR BABER.

XXII. ZOÖLOGY

While the first five majors offer the practical equivalent of the first two years' work in Zoölogy in the University, a student who finishes them and wishes to continue the study of the subject in residence will be advised to take course 26 in residence for the sake of additional training on the experimental side.

1. General Biology.—This course which corresponds to course 3 in residence consists of laboratory work and reading, and is especially recommended to (1) those desiring a general culture course; (2) teachers; and (3) those looking forward to the study of medicine. The student must have had some high-school training in science, preferably in chemistry or physics, or both. The laboratory work includes (a) a study of the structure, activities, and life-history of one or two unicellular animals (e.g., *Amoeba*, *Paramoecium*); (b) a similar study of one of the higher animals (e.g., the frog, its anatomy, histology, general physiology and development); and (c) a study of karyokinesis (cell-division). All those who are registered in the course in early spring will be required to collect some amphibian eggs. A fee of \$5 will be charged for the materials furnished and loan of slides. Materials furnished are preserved frogs with circulatory system injected, certain reagents not easily obtainable by the student, and an Atlas Science Tablet containing enough note and drawing paper for the course. The slides will illustrate cell-division, histology of the frog, etc. A compound microscope, magnifying 400 times, a hand lens, and a set of dissecting instruments will be needed. The cost of instruments (exclusive of the microscope and hand lens) need not exceed \$3. The cost of books will depend upon the library facilities of the student, but need not in any case exceed \$8. Mj. DR. SHELFORD.

2. Evolution: Introductory Course.—The equivalent of course 5 in residence. The course gives an unprejudiced treatment of one of the central problems of biology and is intended to serve as an introduction to more advanced special work in zoölogy and other biological branches. Yet the general student will find the work absorbingly interesting if he is prepared to read widely and to form independent judgments as to the validity of arguments and evidence. Among the topics discussed are: (1) brief survey of animal groups in the order of increasing complexity; (2) the idea of a phylogenetic tree; (3) evidences of evolution from comparative anatomy, embryology, paleontology, and geographical distribution; (4) the ancestry of man; (5) the history of the evolution idea from the Greeks to Darwin; (6) Darwinism—a critical discussion; (7) post-Darwinian hypotheses as to the causes of evolution; (8) variation and heredity as prime factors of evolution; (9) modern experimental evolution; (10) the present status of evolutionary thought. Mj. ASSOCIATE PROFESSOR NEWMAN.

3. General Morphology and Natural History of the Invertebrates.—The two majors of this course correspond to courses 15 and 16 in residence.

A. Protozoa, Porifera, Coelenterata, Platyhelminthes, Nematelminthes, and Echinodermata.—An introduction to the study of invertebrate animals. The work includes laboratory study of the anatomy, physiology, and, as far as possible, of the life-history of typical forms, together with assigned reading. Special emphasis is laid on the economic importance of the animals considered. The fundamental principles of comparative morphology are kept in view throughout the course. In addition to the study of the material furnished (about thirteen forms) the student will be expected to acquaint himself with some of the typical invertebrates of his own locality, and directions for the collection and determination of such forms will be given. The securing of the protozoa studied in the course is a part of the laboratory work, and since protozoa must be cultivated in infusions, which require from one to three or four weeks, the students should not delay registration until he is ready to begin work. Instructions for making infusions will be sent with the first lessons. Fee for material and loan of more difficult preparations, \$5. Mj.

B. Mollusca, Annulata, and Anthropoda.—Continues A. About twelve forms are furnished. Fee for materials, \$5. Mj. DR. SHELFORD.

4. General Morphology of the Vertebrates.—An introduction to the study of vertebrated animals, more especially recommended for teachers of zoölogy and those contemplating the study of medicine. The course is elementary and may profitably follow course 3, though 3 is not prerequisite; it corresponds to course 17 in residence. The work will consist of assigned readings and dissection. The following type forms will be furnished for dissection: elasmobranch, frog, and necturus. Observation of the life-history and development and metamorphism of the frog will be expected, to be supplemented by readings on the natural history, geographical distribution and classification of both the elasmobranchs and amphibians. (Informal.) Mj. PROFESSOR WILLISTON AND MR. MEHL.

5. Studies in Zoölogy.—Under this title an attempt will be made to provide the instruction given in course 4 in residence in which the student is familiarized with the structural, ecological, and physiological diversity among the animals of his locality and the principles of animal classification. The course is introduced here in the sequence because it is deemed advisable that the non-resident student shall have done the work of all the preceding majors. Only students who have completed the two majors of "Invertebrate Zoölogy" with a high grade will be admitted. Some special apparatus costing from \$5 to \$10 will be necessary. The books required will differ in individual cases. (Informal.) Mj. DR. SHELFORD.

6. Comparative Osteology.—A comparative study of the skeleton of typical amphibians, reptiles, birds, and mammals, with especial reference to their relationships, classification, and origin. This course is recommended as preliminary to the general study of the vertebrates, or in preparation for the study of medicine. (Informal.) Mj. PROFESSOR WILLISTON AND MR. MEHL.

7. Advanced Animal Ecology.—This course which corresponds to course 52 in residence is designed for students who have taken "Animal Ecology" in residence and consists chiefly of definite systematic fieldwork. All the animals of certain habitats will be studied in relation to each other and to the conditions in which they live. The student must consult the instructor before registering for this course. Prerequisite: "Physiographic Animal Ecology" (29 in residence). (Informal.) Mj. DR. SHELFORD.

XXIV. PHYSIOLOGY

1. Introductory Physiology.—The object is to develop an appreciation of the human body. This necessitates a knowledge of its structure and the work of its parts separately and as a whole. Knowledge of this kind is a necessary foundation for advance study such as is demanded of students of medicine, pharmacy, dentistry, and kindred subjects. Some information of this kind should be the possession of every intelligent person for without it effective co-operation in the modern methods of healing and preventing disease, as practiced by physicians, is impossible. A further use of physiological facts is their application to methods employed to solve many social problems of today. To teachers such knowledge is especially valuable. It enables them to use and conserve the bodily powers both of themselves and of their pupils and to analyze intelligently deficiencies exhibited by their pupils and so make proper adjustments.

A. This is essentially a summary of the history of food in the body. In the *textbook work*, after stating the point of view from which the subject is to be attacked, the following topics are discussed: (1) life—theories advanced to explain its nature, conditions necessary for its existence; (2) protoplasm, cells, tissues, organs and their relations and, incidentally, the subject of "division of labor"; (3) blood—its structure, components, use, and how it gains foods; (4) respiration; (5) digestion and digestive fluids; (6) secretion and absorption. In the *laboratory work*, which will require a microscope for a short time (two weeks or so), directions will be given for the study of (1) blood; (2) properties of foods; (3) the changes which food undergoes under the action of the various digestive fluids. Some knowledge of chemistry is essential. The requisite laboratory equipment and materials will be loaned for a deposit fee of \$15. Mj.

B. Continuing A, study is made of (1) how the blood with its acquired foods is distributed throughout the body (circulation); (2) how the lymph gets to the cells; (3) history of food in the body cells—fats, glycogen, muscle, nerve, the various tissues, their physiology and metabolism, are discussed; (4) excretion; (5) animal heat. Directions are given for making the necessary experiments to illustrate physiological methods and the physiology of the organs of circulation, muscle, and nerve. The requisite laboratory equipment will be loaned for a deposit fee of \$15. Mj.

C. Continuing B, study is made of the physiology of the brain, cord, and senses, to give general acquaintance with the structure of the central nervous system. Known facts in its physiology are discussed and so far as possible the methods by which these facts have been ascertained are explained. The main facts of the anatomy and physiology of the brain, eye, ear, and other sense organs are brought out through dissection for which full directions are furnished. Mj.

ASSISTANT PROFESSOR LINGLE.

NOTE.—The deposit fee for either A or B will be refunded when the set of apparatus is returned, less charges for breakage, expressage, and a loan fee of \$3.

XXVII. BOTANY

1. **General Morphology of the Algae and Fungi.**—This course consists of twelve exercises covering the ground of the laboratory work of the twelve weeks' course given at the University. The fifty types studied represent all the main groups of algae and fungi. In connection with a study of the structure, development, and relationships of the various forms, the principal problems considered are: (1) the evolution of the plant body, (2) the origin and evolution of sex, and (3) parasitism, saprophytism, and symbiosis. This is pre-eminently a course for beginners, but it is also adapted to the needs of teachers who, though acquainted with the older style of botany, desire an introduction to the more modern phases of the subject. The material in many of the types is sufficient for a class of eight or ten students. An additional fee of \$2.50 is charged for the material and the loan of preparations. The applicant must have access to a compound microscope with a low- and a high-power objective, the latter being a $\frac{1}{2}$, a $\frac{1}{4}$, or a $\frac{1}{8}$, preferably a $\frac{1}{4}$. Mj. ASSOCIATE PROFESSOR CHAMBERLAIN.

2. **General Morphology of the Bryophytes and Pteridophytes.**—A course similar to the one on algae and fungi, and requiring that course or its equivalent as a prerequisite. The structure, life-histories, and relationships of the liverworts, mosses, and ferns are studied in characteristic types. The principal problems considered are: (1) the evolution of the sporophyte, (2) the reduction of the gametophyte, (3) heterospory, and (4) alternation of generations. A compound microscope is needed, as in course 1. There are needed for this work skilfully stained preparations, which necessitate a knowledge of microtechnique. Arrangements have been made whereby a limited number may secure a loan of the necessary preparations for a fee of \$2.50 in addition to the fee for material. No one should register without consulting the instructor. Fee for material, \$2.50. Mj. ASSOCIATE PROFESSOR CHAMBERLAIN.

3. **General Morphology of the Gymnosperms and Angiosperms.**—A course similar to the two preceding courses, and requiring both of them (or their equivalent) as a prerequisite. Aside from a study of the structure and development of typical forms the most important features of this course are: a study of spermatogenesis, oögenesis, fertilization, embryology, karyokinesis, and a brief survey of Engler's scheme of classification. A compound microscope is needed as in courses 1 and 2. No one should register without consulting the instructor. Fee for material and loan of the more difficult preparations, \$5. Mj. ASSOCIATE PROFESSOR CHAMBERLAIN.

NOTE.—Courses 1, 2, and 3 are designed to give the student a comprehensive view of the structure, development, relationships, and problems of the plant kingdom. These courses form the necessary foundation for all advanced work, whether the advanced work be morphology, physiology, ecology, or taxonomy. They are required of all who make botany their major subject for the Bachelor's degree, and are required of all who make botany either a major or minor for any higher degree. The development of a clear, bold style of scientific drawing receives attention in all of these courses.

4. Elementary Plant Physiology.—This course corresponds to course 2 in residence. It aims to give the student a general knowledge of the life-processes of higher plants and is introductory to the advance courses in the subject given in residence. The work will consist of experiments illustrating the different topics, together with assigned reading in a standard textbook. It is adequate to meet the needs of high-school teachers. For the experimental work little more apparatus will be needed than that found in the physical and chemical laboratories of the average high school. A list of required articles will be furnished on application. Reports of both reading and experiments will be called for and will be returned with corrections. Anyone registering should realize that serious difficulties will be encountered unless some facilities for growing plants are at hand. This difficulty can be met by doing the work during the summer months. Mj. ASSISTANT PROFESSOR CROCKER.

5. Elementary Plant Ecology.—This course covers essentially the same ground as Coulter's *Plant Relations*, and does not necessarily require previous botanical training though some work in plant analysis and in the study of plant structures is highly desirable. The object of the course is to present to the student the factors which influence the functions, form, and distribution of the common plants of his neighborhood. At first the different forms of leaves, stems, and roots are studied; then the plant is taken as a whole with respect to the advantages it possesses in the struggle for existence because of a particular structure—leaf, root, or stem. Under the subject of stems, the identification of the common trees is required. The work may be carried on chiefly out of doors, and no microscope is needed. Mj. ASSOCIATE PROFESSOR COWLES AND MR. FULLER.

6. The Scientific Basis of Agriculture.—This is chiefly a reading course of general nature dealing with the main physiological factors influencing plant production. Several phases of the work will involve simple experiments which call for little apparatus. Some of the topics considered are: (1) soils as influencing plant growth and production; (2) seeds and germination of seeds of economic plants and weeds; (3) water relations of plants; (4) synthesis of foods and their uses in plants; (5) reproduction and fertilization and physiology of budding and grafting. In addition to the textbooks constant use will be made of various agricultural bulletins and other scientific pamphlets. In case the pamphlets cannot be obtained gratis they can be borrowed from the Correspondence-Study Department for a nominal fee. This course should be attempted only by persons having a fair general knowledge of botany. Mj. ASSISTANT PROFESSOR CROCKER AND DR. ECKERSON.

7. Elementary Forestry.—The principal subjects covered by this course are: (1) the identification of trees by the use of keys and other helps; (2) the life-relations of trees, that is, trees as influenced by light, soil, temperature, wind, animals, and by the struggle for existence; (3) the composition and distribution of the forests of the United States, involving the making of distributional maps; (4) some economic aspects of forestry, namely the proper care and management of the forests, including plans for improvement cuttings, for reproduction, and for protection from fire. The object of the course is to impart an elementary general knowledge of forestry, including the forestry problems in the United States, and it is offered primarily to teachers in the belief that they can do much to influence public opinion in regard to one of the most important economic problems confronting the country. The course may be given entirely through lectures and textbooks, but whenever practicable such work will be supplemented by field exercises on some limited forested area selected by the student. As the instructor spends a considerable part of each summer in the northern woods beyond regular mail service the student should plan to do as much of the work as possible during the other seasons of the year. Mj. DR. HOWE.

8. Ecological Plant Anatomy.—This course is a continuation of course 5 and corresponds to course 30 in residence. It involves a careful study of the absorptive, conductive, synthetic, protective, and storage tissues of plants in relation to their functions, with special attention to the variations of structure in so far as they depend upon changes in environment. Students electing this course

should have a knowledge of elementary botany and be somewhat familiar with the use of the microscope. A knowledge of German is required of graduate students. The student must have access to a good compound microscope, and if the work is to be done during the winter, access to a greenhouse is very desirable. Fee for materials and loan of slides, \$2.50. Mj. ASSOCIATE PROFESSOR COWLES AND MR. FULLER.

9. Field Ecology.—This course is designed primarily for those students who have taken courses in ecology, and who desire to pursue further investigations along this line. The work consists very largely of systematic study in the field. A definite region or plant formation may be made the subject of study, or some problem may be selected in the ecology of plant structure or behavior. (Informal.) Mj. ASSOCIATE PROFESSOR COWLES.

10. Elementary Plant Anatomy.—A study of the tissues and tissue systems of vascular plants from the standpoint of phylogeny. This work is very different from the old anatomy in which facts were presented without any attempt to relate them to each other. The course deals with the morphology and evolution of the vascular system, and is based upon a comparative study of representative juvenile and adult forms of Pteridophytes, Gymnosperms, and Angiosperms. A microscope magnifying about four hundred diameters is necessary. An extensive knowledge of micro-technique is not essential. Directions for preparation of material and making of the necessary mounts will be given in the exercises. Fee for material and loan of slides, \$2.50. Mj. ASSISTANT PROFESSOR LAND.

11. Methods in Plant Histology.—This course deals with the principles and methods of killing, fixing, imbedding, sectioning, staining, and mounting. The student must have access to a compound microscope magnifying at least four hundred diameters, a microtome, and some other apparatus and reagents. A fee of \$2.50 is charged for plant material which is not readily collected at all seasons. No one should register without consulting the instructor. Mj. ASSISTANT PROFESSOR LAND.

SCHOOL OF EDUCATION

12. Teachers' Course in Botany.—This course treats of the leading facts and principles that are involved in presenting botany in secondary schools. The following are some of the topics considered: (1) the place of science, particularly botanical science, in secondary education; (2) a review of botanical material in order to establish a basis of consideration of other elements of the course; (3) study of types of plant life as found in the student's locality; (4) criticism of outlines that are recommended for courses in botany and related biological subjects; (5) outline of a course fitted to the local school needs and botanical environment; (6) consideration of laboratory and fieldwork, apparatus and illustrative material; (7) teacher's helps—reference works, magazines, forestry and agricultural publications, maps, charts, and photographs; (8) reports upon special topics. This course is similar to course 21, School of Education (course 50, Department of Botany). Prerequisite: three majors in botany, or experience through teaching, or practical study. The student should consult the instructor before registering. Mj. ASSOCIATE PROFESSOR CALDWELL.

XXVIII. PATHOLOGY AND BACTERIOLOGY

ACADEMY

1. General Bacteriology and the Relation of Bacteria Yeasts and Molds to the Household, Dairy, Industries, and Agriculture.—This is primarily a culture course designed for those who do not wish to go to the expense of setting up a laboratory and will consist of: (1) simple experiments at home; (2) examination and description of sealed cultures; (3) writing of themes on assigned subjects; (4) selected readings. [This course commands only admission credit.] Mj. DR. HEINEMANN.

COLLEGE

2. Bacteriological Methods.—The following subjects will be covered: (1) principles of sterilization; (2) manipulation of the microscope; (3) rôle of bacteria in nature; (4) methods of growing bacteria; (5) methods of staining bacteria; (6) description of bacteria; (7) bacteriology of water and milk. The work will appeal especially to students preparing for the medical profession and to practitioners who wish to renew their knowledge of the subject. The applicant must have access to a compound microscope with a low-power and a high-power objective. If all the apparatus is purchased it will cost approximately ten dollars exclusive of the microscope, but many of the parts can be extemporized. A complete set of the apparatus needed, packed ready for shipment, will be supplied for \$12. Course 1 is not prerequisite. Mj. DR. HEINEMANN.

3. Advanced Bacteriology.—A series of courses designed for those interested in some particular branch of bacteriology, e.g., medical, sanitary, agricultural, etc.

A. Yeasts, Molds, and Acetic Acid Bacteria.—A course designed especially for those wishing to prepare themselves for the practical use of bacteriology in fermentation industries. The general methods of studying this class of microorganisms are studied and practical work proposed. Mj.

B. Water and Milk Analysis.—This course covers the methods of practical water and milk analysis. The methods given are those in use at health and private laboratories, and, though not complete for research, give the student an idea of how research may be prosecuted after these subjects have been mastered. Mj.

C. Bacteriological Examination of Soil.—An elementary course in soil bacteriology, giving the methods now in vogue for investigation of soil conditions. Some knowledge of chemistry is required. Mj. DR. HEINEMANN.

CXXII. NATURAL SCIENCE

1. Elementary Natural Science.—This course is based largely on out-of-door observations and experiences and is intended primarily as an introduction to the interpretation of the common nature materials and phenomena of the home region with special reference to their use in the elementary schools. It corresponds to course 1 in residence and embraces some six of the following topics: (1) common birds of the locality and their relation to agriculture; (2) life-histories of some insects and their economic importance; (3) identification of other animals of the region, their habits and habitats; (4) the domestic animals with a study of their history, breeding, and the laws of heredity involved; (5) the trees and shrubs and a brief sketch of the problem of forestry; (6) seeds and seedlings together with the elementary principles of seed selection and the physiology of growth; (7) the spore-bearers and the problem of community health involved in the life-histories of some of the tiniest of them; (8) the plant societies of the region with discussion of the factors involved in their location, limits, and relations. Topographic maps, areal maps, and soil maps of the State or United States Geological Survey will be used whenever available. Unidentified material should be collected and forwarded for identification. Students are advised not to register for this course during the Winter Quarter. Mj. ASSISTANT PROFESSOR DOWNING.

2. Regional Studies.—The work of this course will be directed toward a study of the region, considered as a whole, which lies within convenient reach of the student. It corresponds to course 3 in residence and involves a study of: (1) the physical subdivisions of the area as well as a study of the causes which have given rise to these subdivisions; (2) the physiographic history of the area, its genesis and development; (3) the present content of plant life with reference to the factors which have influenced its entrance, development, and distribution in the area; (4) the present content of animal life, including the factors which have influenced its entrance, development, and distribution in the area. The work presupposes at least high-school courses in physical geography, botany, or zoology. Mj. ASSISTANT PROFESSOR DOWNING.

3. School Gardening and Elementary Agriculture.—The course is intended to include a study of the elementary principles of agriculture necessary to relate the activities of the school to the agricultural life of the country. These activities naturally center about the school garden; hence these studies include reading and experimental work on such topics as (1) the planning and planting of the school and home grounds; (2) the place of the school garden, how it should be planned and related to the other departments of the school; (3) the best trees for school and home grounds and how they should be planted; (4) the best plants for the school garden and the best methods of culture; (5) propagation from seeds, cuttings, and bulbs, in window boxes, hotbeds, and out of doors; (6) plant-breeding, its scope and results; (7) weeds, their identification and control; (8) window gardening in the school and home; (9) plant-diseases and insect-enemies, their recognition and control; (10) soils, their physical and chemical nature; (11) fertilizers, their composition and use; (12) special problems in agriculture peculiar to the locality which need recognition and discussion in the school. The exercises are of such a nature that they make use of the material which may be available in any particular locality, while suggestions will be offered and assistance given in the study of local problems. Mj. MR. FULLER.

DRAWING

An introductory course—**Freehand Drawing**—and three series of courses:

A. Mechanical Drawing, B. Architectural Drawing, C. Descriptive Geometry afford opportunity to begin the study of drawing, and to continue it to a point where knowledge of higher mathematics—e.g., calculus, mechanics, etc.—conditions further progress. “Freehand Drawing” with any one of the series offers what is usually done in the first two years in the best technological schools. While open to anyone they will appeal especially to those who wish thorough training in the fundamentals of the science, whether for immediate practical purposes in the office, shop, or classroom, or as a preparation for Mechanical, Electrical and Civil Engineering, or for Architectural Drawing.

One may begin any major in any one of the three series for which he is prepared, though in most cases it will be found advisable, if not necessary, to begin with the first major. Unless a student has had “Freehand Drawing,” or the equivalent, admission to the first major of any one of the series, except the second, will be conditioned upon the approval of the instructor in charge, who will base his decision upon a statement and exhibit of previous work. “Freehand Drawing” is the first major of Series B. The University reserves the right to retain one drawing from the student’s set in each major.

The materials required in any major will be sent, express collect, upon receipt of the amount given, which is the lowest that can be quoted for a good quality. The weight of the case and the price of the textbook will enable the student to determine the exact cost of each major.

Material required in “Freehand Drawing.”—Six sheets of Whatman’s cold-pressed paper, 22×30 inches; 8 sheets of chalk-talk paper, 14×20 inches; 3 Koh-i-noor pencils, 3H; 1 pencil eraser, No. 211; 1 dozen thumb tacks, steel-stamped, $\frac{3}{8}$ inch diameter; 1 box of French charcoal; 1 bottle of fixatif, two-ounce; 1 tin atomizer; 1 box “Star” chalks, six assorted colors; 1 drawing-board, 18×24 inches; and models of different solids.

Material required in courses A 1, 2, 3, 4, 5; B 2, 3, 4, 5; and C 1, 2, 3, 4.—One drawing-board, 18×24 inches; 1 set, drawing instruments in folding pocketbook style case, No. 422; 1 T-square, mahogany, ebony-lined fixed head, 24 inches; 1 amber triangle, 45°, 8 inches; 1 amber triangle, 30°×60°, 10 inches; 1 triangular boxwood rule, architect’s 12 inches; 1 flat boxwood scale, 6 inches, divided $\frac{1}{16}$ and $\frac{1}{32}$; 1 French amber curve, No. 1; 1 dozen sheets of Whatman’s hot-pressed paper, 22×30 inches; 6 Koh-i-noor pencils, assorted, 3H and 6H; 1 bottle each of Higgins’ carmine, black, and blue ink; 1 dozen thumb tacks, steel-stamped, $\frac{3}{8}$ inches diameter; 1 Faber’s pencil-eraser, No. 211; 1 Faber’s ink-eraser, No. 2604; 1 Hardtmuth’s soft pliable rubber, No. 12; 1 file, 4 inches; 1 pen-holder; 3 ball-pointed pens.

ACADEMY

Freehand Drawing.—A course preparatory to each of the series described below except the second, in which it is required. It gives that thorough training of the eye and hand which is so necessary in all work requiring accuracy in observation and measurement. While this is primarily its purpose, the course offers the work required in most of the public schools of the country preparatory to teaching Freehand Drawing. Although it does not deal with the pedagogy of the subject it provides a practical and pedagogically correct working basis in this subject, and can be recommended, therefore, to all grade teachers, and to others who are expected to teach Freehand Drawing in connection with their special work. The course embraces the following divisions: (a) *Freehand Projection*—to familiarize the student with the various views of an object and their proper arrangement upon the sheet, by which all the facts of size, form, and proportion are shown, together with perspective sketches of the object, 6 drawings; (b) *Model Drawing of Type-Forms*—outline sketching in perspective, of the cube, cylinder, and other geometrical solids, introducing the principles of perspective as applied to small objects, 6 drawings; (c) *Model Drawing, Groups*—outline drawings of solids and other objects to teach composition and perspective, 6 drawings; (d) *Light and Shade*—pencil studies of the type solids and original groups of objects, to give practice in obtaining quick effects in black and white, 6 drawings; (e) *Color Work*—color studies with chalks, to teach an appreciation of surface, texture, and the proper juxtaposition of colors as applied to groups of objects, 6 drawings; (f) *Pen and Ink Studies* of single objects and original groups, involving outline, light and shade, texture, surface, etc., 6 drawings; in all 36 drawings. No textbook is required. Cost of materials ready for shipment, \$3; weight of package, 18 pounds. Mj. MR. FERSON.

A. Mechanical Drawing.—

1. *Projective Geometry.*—(a) Preparatory work: this will include the use of instruments, laying out, penciling, inking-in, lettering; with practice work to learn accuracy of measurement and of line, 3 drawings. (b) Graphic geometry; this is intended to give the student a mastery of the various geometrical constructions which form the basis of all work in projection, descriptive geometry, and constructive drawing, whether mechanical or architectural, and at the same time to give facility in the use of the instruments, 6 drawings. (c) Projection: this will include the projection of points, lines, planes, and solids, 6 drawings; in all, 15 drawings. Textbook: Linus Faunce's *Mechanical Drawing*, \$1.35. Cost of materials ready for shipment, \$15; weight of package, 18 pounds. Mj. MR. FERSON.

2. *Constructive Drawing.*—(a) Intersections, including conic sections, oblique sections, intersections, and developments, 6 drawings. (b) Shadows: the first angle projection of shadows, 3 drawings. (c) Isometric projections with projections of shadow, 3 drawings. (d) Oblique or cabinet projection, 3 drawings; in all, 15 drawings. Textbook and equipment for this course same as for A 1. Prerequisite: course A 1. Mj. MR. FERSON.

3. *Machine Details.*—This course is intended to familiarize the student with the various parts of machines that have come to be recognized as standards, and which are used in the construction of new machines. Standard sections for materials, fastenings, couplings, bearings, engine details, etc., 10 drawings. Textbook: Low and Bevis' *Manual of Machine Drawing and Design*, postpaid, \$2.50. The equipment for A 1 will suffice for this course also. Prerequisite: courses A 1 and 2. Mj. MR. FERSON.

4. *Gear Construction.*—Spur-gears, bevel, spiral, worm, elliptic, involute and cycloid teeth, hubs, arms, rims, etc., 10 drawings. Textbook: George B. Grant's *Teeth of Gears*, postpaid, \$1.10; equipment, same as for A 1. Prerequisite: courses A 1, 2, and 3. Mj. MR. FERSON.

5. *Shop Drawing.*—(a) Machines from freehand sketches and measurement—details and an assembled drawing of some piece of machinery; (b) tracing and blue-printing. Five drawings with their tracings and blueprints will be accepted

for this course; in all, 15 sheets. No textbook is required; equipment, same as for A 1. Prerequisite: courses A 1, 2, 3, and 4. Mj. MR. FERSON.

B. Architectural Drawing.—This series gives the student a good working knowledge of the essentials in architecture; history, the orders, the principles of the designing of dwelling houses, office work in rendering, perspective, and detailing, together with tracing and blue-printing. As the success of the student in architecture is so completely dependent upon his knowledge of, and practice in, all the departments of freehand drawing and sketching, it is absolutely essential that the introductory major, "Freehand Drawing," should be taken first, so it is made the first major of the series.

1. *Freehand Drawing.* Mj. MR. FERSON.

2. *Projective Geometry.* Same as A 1. Mj. MR. FERSON.

3. *Constructive Drawing.* Same as A 2. Mj. MR. FERSON.

4. *Architectural Details.*—(a) "The Orders," 10 drawings; (b) details of architectural construction from measurements, 2 drawings; in all, 12 drawings. Textbooks: Hamlin's *Architectural History*, postpaid, \$1.75; and Ware's *American Vignola*, Part I. "The Orders," postpaid, \$2.50. Equipment for this course, same as for A 2. Prerequisite: courses B 1, 2, and 3. Mj. MR. FERSON.

5. *Architectural Design.*—(a) Domestic plans, from copy, 4 drawings; (b) design of some small building, 4 drawings; (c) tracings and blueprints, 4 tracings with their prints, 8 sheets; in all, 16 drawings. No textbook is required. Equipment, same as for A 1. Prerequisite: courses B 1, 2, 3, and 4. Mj. MR. FERSON.

6. *Pictorial Architecture.*—(a) Architectural perspective, 3 drawings; (b) architectural rendering in pen and ink, 4 drawings; (c) rendering in color and wash, 4 drawings; in all, 11 drawings. Textbooks to be designated. Equipment, same as for A 1. (In preparation.) Prerequisite: courses B 1, 2, 3, 4, and 5. Mj. MR. FERSON.

C. Descriptive Geometry.—This series is for those who wish to go into the higher mathematics, but have had no training in the graphic side of the subject. It will consist of:

1. *Projective Geometry.*—Same as A 1. Mj. MR. FERSON.

2. *Constructive Drawing.*—Same as A 2. Mj. MR. FERSON.

3. *Theoretical Graphics.*—Problems in points, lines, planes, and straight-surfaced solids; 15 drawings. Textbook: Church's *Descriptive Geometry*, postpaid, \$2.65; equipment, same as for A 1. Mj. MR. FERSON.

4. *Practical Graphics.*—Curved and warped surfaces, shades and shadows, developments; 15 drawings. Textbook: same as for C 3; equipment, same as for A 1. Mj. MR. FERSON.

LIBRARY SCIENCE

1. Technical Methods of Library Science.—This is an elementary course designed especially for those who are already in library positions, and are unable to leave for resident study. It deals chiefly with cataloguing and classification, with a few general lessons on accessioning, shelf-listing, book-binding, gift work, periodicals, and loan systems. It is felt that no library training can be complete without personal familiarity with the "tools" of the profession and modern methods of work. Hence it is hoped that students taking this course will find it possible later on to supplement the work thus begun by resident study at some library school. While credit is not given for correspondence courses in any such school, familiarity with library methods will make residence work easier for the student. As preparation for this course two years of college training or its equivalent is required. Practical experience in library work will count much in the applicant's favor. The course consists of twenty-four lessons. Mj. Miss ROBERTSON.

CLVII. SCHOOL-LIBRARY ECONOMICS

1. Literature for Children.—This course is designed for teachers, librarians, parents, social workers, and writers for children. It aims (1) to give a survey of the field of literature for children; (2) to get at the principles underlying the selection of such literature; (3) to deal concretely and practically with certain problems of selection. It attempts to organize and to give new meaning to the mass of literature already read by the student as well as to direct his study along new lines. The course is equivalent to course 31 in residence and deals with the following topics: (1) the young child and the book; (2) the adolescent and the book; (3) institutional factors, as: relation between school and library, Sunday school, the home; (4) the psychology and the hygiene of reading; (5) tested and graded lists of books through the twelve grades of school; (6) historical survey of books for children in America; (7) influence of England, France, and Germany on literature for children; (8) qualities and form, as: simplicity of plot, rapidity of style, narration, drama, etc.; (9) selected classics as literature for children: *Iliad*, *Odyssey*, *Nibelungenlied*, *Morte D'Arthur*, *Roland*, *Aesop's Fables*, *Arabian Nights*, *Don Quixote*, Shakspeare's Plays, *Robinson Crusoe*, *Pilgrim's Progress*, *Gulliver's Travels*, *Alice in Wonderland*; (10) *Mother Goose*, the fairy tale, the ballad; (11) poetry for the young; principles of selection; (12) oral interpretation and reading of literature; (13) The Bible; (14) notable fiction; (15) scientific books; the book as a tool; (16) dramatic instinct; Shakspeare for the young; (17) illustrated books for children. The books used in the course are to be found in ordinary public libraries; the pamphlets and lists can be procured at small cost. A few reproduced pages from old and rare children's books will be furnished. For those interested in building up a children's library both the most expensive and also the cheaper editions will be indicated. Mj. MISS BLACK.

VIL. COMPARATIVE RELIGION

1. Introduction to the History of Religion.—This course is elementary in character and aims to conduct the student into the study of the general principles of religion and to outline the history of the various religions of the world. Mj. DR. CONARD.

2. The Religion of Uncivilized Peoples.—This course surveys primitive religious customs and beliefs, noting their survivals in higher religions. The first part of the course consists of a general study of the religion of uncivilized peoples. In the second part a special study is made of the religion of the North American Indians, or of some other uncivilized people, concerning whom material is available to the student. Mj. DR. CONARD.

3. Comparative Theology: The Idea of God.—This is a cursory study of the idea of God as seen in primitive myth and cult, and in the religious rites and literature of the chief historic religions. Prerequisite: course 1 or 2 or an equivalent. Mj. DR. CONARD.

4. The Religions of India.—The aim of this course is to give a brief outline of the mythology and religion of the *Vedas* and an account of the three great Hindu religions—Brahmanism, Buddhism, and Hinduism. A knowledge of these is absolutely essential to the student of comparative religion. Mj. DR. CLARK.

XLI. OLD TESTAMENT LITERATURE AND INTERPRETATION
AND

VIII. SEMITIC LANGUAGES AND LITERATURES

1. Outline of Hebrew History.—A survey study of the history of the Hebrew people as presented in the Old Testament from the period of the Conquest and establishment in Canaan to the Maccabean struggle and the close of Old Testament history. The course embraces a preliminary sketch of the patriarchal period, with a more detailed study of the Conquest, the period of the Judges, the United and Divided Kingdoms, the Exile, the revival of Judah, and the beginnings of Judaism. The bearings of prophetic activity upon the history and literature also receive consideration. Mj. ASSOCIATE PROFESSOR J. M. P. SMITH.

2. An Introduction to the Old Testament.—This study emphasizes such points as will familiarize one with the outline features of this portion of the Bible. It describes: (1) The method of preserving ancient records; (2) the method of compiling and editing those documents; (3) the historical background of the Old Testament books; (4) the literary character of each book; (5) its chief doctrinal teachings; (6) its place in the scheme of biblical revelation; and (7) the best literature with which to pursue and solve its problems. The work is planned on a practical basis, and aims to give students a reasonably complete idea of the new and real advances that have been made in the last few decades in the understanding of the Old Testament. Mj. PROFESSOR PRICE.

3. Old Testament Prophecy.—The purpose of this course is to aid in securing a better understanding of the rise and development of prophecy in Israel. Some of the more important matters to be considered are: (1) the controlling ideas in the teaching of each of the great prophets; (2) the relation of the prophet and his work to the political and social movements of his day; (3) the attitude of the prophet toward the priest and priestly institutions; (4) the place of prophecy in the preparation for the work of Christ. Mj. ASSOCIATE PROFESSOR J. M. P. SMITH.

4. Old Testament Worship.—A study of the element of worship and the institutions and literature connected with worship in the Old Testament. Special consideration will be given to such topics as: (1) the priest; (2) place of worship; (3) sacrifice; (4) feasts; (5) tithes; (6) clean and unclean, etc.; (7) the origin and character of the Sabbath; (8) the date and character of Deuteronomy; (9) the origin of the Levitical legislation; (10) the composition of the Hexateuch. Attention will be given to the characteristic ideas of the priest as distinguished from those of the prophet, and to the growth of priestly influence in Israel's religious life. Mj. ASSOCIATE PROFESSOR J. M. P. SMITH.

5. Elementary Hebrew.—Includes the mastery of the Hebrew of Genesis, chaps. 1-3; the study of the most important principles of the language in connection with these chapters; Hebrew grammar, including the strong verb and seven classes of weak verbs; and the acquisition of a vocabulary of four hundred words. Mj. ASSOCIATE PROFESSOR J. M. P. SMITH.

6. Intermediate Hebrew.—Includes the critical study of Genesis, chaps. 4-8, with a review of Genesis, chaps. 1-3; the more rapid reading of fourteen chapters in I Samuel, Ruth, and Jonah; the completion of the outlines of Hebrew grammar and an increase of vocabulary to eight hundred words. Mj. ASSOCIATE PROFESSOR J. M. P. SMITH.

7. Exodus and Hebrew Grammar.—Includes the critical study and translation of Exodus, chaps. 1-24; a more detailed study of Hebrew grammar; an inductive study of Hebrew syntax; and the memorizing of three hundred additional words and of several familiar psalms in Hebrew. Mj. ASSOCIATE PROFESSOR J. M. P. SMITH.

8. Haggai, Zechariah, and Malachi.—A course of twenty recitations, including the critical and exegetical study of these books; the lexicographical study of two hundred important words; the principles of Hebrew prophecy; a study of Hebrew syntax, especially the subjects of the tense and sentence; the Hebrew accentuation; and the memorizing of about eight hundred words. M. ASSOCIATE PROFESSOR J. M. P. SMITH.

9. Elementary Arabic.—An inductive study of the elementary principles of Arabic grammar. The Arabic grammar of Socin together with the exercises and stories contained therein furnish the basis of the work. Mj. DR. LUCKENBILL.

10. Elementary Assyrian.—The cuneiform text as well as the transliteration is used from the beginning. The student learns the most common cuneiform signs, the strong verb and all classes of weak verbs, and the fundamental principles of the language. A knowledge of Hebrew is prerequisite. M. PROFESSOR BERRY.

11. Intermediate Assyrian.—This includes the reading of several hundred lines of historical cuneiform text, with special attention to vocabulary, a further

study of Assyrian grammar, including syntax, and the learning of most of the remaining cuneiform signs that are in frequent use. M. PROFESSOR BERRY.

12. Elementary Egyptian.—Study of (1) the speech of Thutmosis I to the priests of Abydos; (2) the romance of Sinuhe (transliterated from the Hieratic) in Erman's *Chrestomathy*. It includes the acquisition of the commonest signs, and the grammatical principles of the language of the classic period. Mj. PROFESSOR BREASTED.

Members of the Semitic Department will endeavor to arrange informal courses for students who are prepared to do work of an advanced nature, whenever practicable.

NOTE.—Related courses will be found under Departmental Nos. IV, VII, XVI.

XLII. NEW TESTAMENT LITERATURE AND INTERPRETATION AND IX. BIBLICAL AND PATRISTIC GREEK

1. Jewish History in the Times of Jesus.—An account of the rise and fall of the Jewish state from 175 B.C. to 135 A.D., with special attention to the history of the Pharisees and Sadducees, and to the Jewish social and religious life. The aim of the course is to furnish a historical background for the life of Christ. This course corresponds in general to course 1 in residence, which is required of candidates for the D.B. degree. Mj. ASSOCIATE PROFESSOR VOTAW.

2. Life of Jesus.¹—The chief purposes of this course, as of its counterpart course 5 in residence, are: (1) to acquaint the student with the most important recent books upon this subject; (2) to show how the accurate historian must estimate and use the sources of information about Jesus; (3) to discover as far as possible the details about Jesus' earthly career; (4) to determine the aims which actuated Jesus and the methods he employed in his work; (5) to understand his deeds and words in the light of the religious problems of his own age; (6) to offer some suggestions regarding the significance of Jesus' work for the founding and perpetuation of Christianity. Mj. ASSISTANT PROFESSOR CASE.

3. Research Course in the Life of Christ.—A course designed to follow course 2 or an equivalent study of the "Life of Christ." The purpose is a thorough investigation of fourteen main topics and problems in the gospel history, such as the origin and characteristics of the gospels, the development of the religious and messianic consciousness of Jesus, the plan and the chief events of his public ministry, and the growth and crisis of the opposition to him. Use will be made of the best literature upon the subject. Papers by the student upon several topics will be discussed by the instructor. M. ASSOCIATE PROFESSOR VOTAW.

4. The Teaching of Jesus.—The four gospels will be investigated as to their origin, characteristics, trustworthiness, and the manner of their use for ascertaining the teaching of Jesus. The chief ideas and characteristics of Judaism in Jesus' day will be studied as the historical background to his teaching; also the development of Jesus' own religious experience and ideas, and the aim, limits, style, and method of his teaching. Then will follow topically a comprehensive, careful study of the content of Jesus' teaching. Mj. ASSOCIATE PROFESSOR VOTAW.

5. The Social Teaching of Jesus.—The teaching of Jesus concerning society, the state, the family, wealth, and other social institutions. The student must consult the instructor before registering for the course. Mj. PROFESSOR MATHEWS.

6. History of the Apostolic Age.¹—This course, corresponding to course 8 in residence, covers the history of Christianity from Jesus' death to the end of the first century. Among the more important topics studied are: (1) the experiences

¹ Registrations accepted after October 1.

of the primitive Christians at Jerusalem; (2) the beginnings of missions; (3) the relations between Judaism and Christianity; (4) the missionary work of Paul; (5) Christianity's contact with the religions of the Graeco-Roman world; (6) the growth of church ritual and organization; (7) the origin and content of early Christian doctrines; (8) the rise of Christian literature. Mj. ASSISTANT PROFESSOR CASE.

7. Introduction to the Books of the New Testament.—

A. Life of the Apostle Paul and Introduction to the Pauline Epistles.—The work in this course is done on the basis of a handbook, containing an outline of the life of Paul, topics for special study, with references to literature, and a brief introduction to the epistles. The aim is to prepare the student for the interpretation of the letters of Paul and for an understanding of his personality and theology. Mj.

B. Introduction to the Gospels, Acts, and General Epistles.—Includes the study of the occasion and purpose of each book and its general content and structure. Mj. PROFESSOR BURTON AND DR. BAILEY.

8. The Ethical Teaching of the New Testament.—The moral ideal of Jesus is to be studied on the basis of the Sermon on the Mount, supplemented by material from other portions of the gospels. The specific principles set forth by Jesus, and the application which he made of them to his own life and to the conduct of others, will be interpreted. Similarly, the moral ideal of Paul will be considered, with its principles and applications and the ethical teaching of the General Epistles. Then a comparison and summary of the whole ethical teaching of the New Testament will be made. Mj. ASSOCIATE PROFESSOR VOTAW.

9. Elementary New Testament Greek.—A course for beginners, presupposing no knowledge of Greek. It aims to secure, by an inductive study, the absolute mastery of chaps. 1-4 of the Gospel of John, and the essential facts and principles of the language. Emphasis is placed upon the writing of exercises in Greek. Mj. DR. BAILEY.

10. Intermediate New Testament Greek.—This course is designed for those who have completed course 9, and for those who wish to review their Greek in connection with the New Testament. It comprises the thorough study of the entire Gospel of John, and the reading at sight of the First Epistle of John; also the acquisition of vocabulary and the most general principles of grammar. One who has diligently worked through this course should be able, with the aid of the lexicon, to read with comparative ease the New Testament. Mj. DR. BAILEY.

11. The Greek of the New Testament.—Using the Gospel of Mark a thorough study is made of the syntax of New Testament Greek. The course corresponds to course 41 in residence and is recommended for the D.B. degree. Prerequisite: courses 9 and 10 or equivalent instruction in classical Greek. Mj. ASSOCIATE PROFESSOR VOTAW.

12. The Apostolic Fathers.—The course includes a study of (1) the early Christian literature ca. 95-150 A.D.; (2) problems of date, authorship, and purpose; (3) reading of the Greek; and (4) studies in theology and polity. Outlines of the literature will be provided, and reports covering the topics given above will be required. The later development of New Testament ideas and practices, as reflected in this early Christian literature, will be especially emphasized. Mj. ASSOCIATE PROFESSOR GOODSPEED AND DR. ROBISON.

ENGLISH THEOLOGICAL SEMINARY

3B. New Testament Times in Palestine.—(Cf. p. 68.) ASSOCIATE PROFESSOR VOTAW.

XLIV. SYSTEMATIC THEOLOGY

1. Outline Course in Systematic Theology.—The course is intended to give a general acquaintance with the field of systematic theology, with especial reference to the problems which are today attracting chief attention. The first half of the course is devoted to a general introduction to the subject; the second half to the

content of systematic theology. The contents of textbooks prescribed are to be carefully analyzed and criticized on the basis of questions and topics furnished by the instructor. **Mj. ASSOCIATE PROFESSOR G. B. SMITH.**

2. Christian Ethics.—This course attempts to set forth the moral aspects of the Christian religious experience. The psychological constitution of the moral disposition of the Christian is investigated. The Christian moral ideal is differentiated from the naturalistic theories of ethics set forth by the Greek philosophers and by modern utilitarian and evolutionist schools, and from the theory of supernatural legalism as exhibited in Judaism. The moral motive power of the Christian, and the fundamental canons of moral judgment are discussed, with suggestions as to the method of determining duty in the various fields of human activity. The course thus serves as an introduction to the study of social ethics from the Christian standpoint. **Mj. ASSOCIATE PROFESSOR G. B. SMITH.**

3. Apologetics.—This course is intended to acquaint the student with the general outlines of a defense of Christianity. In the first place the content of Christianity which must be defended is sought on the basis of a historical study of the sources and history of Christianity. The ultimate elements of Christian faith are then defined and justified in the light of modern thought. Questions and topics suggested by the required textbooks are to be discussed in written papers by the student. Prerequisite: courses 4, 5, and 6 in the Department of Philosophy or an equivalent. **Mj. ASSOCIATE PROFESSOR G. B. SMITH.**

4. The Theological Significance of Leading Movements of Thought in the Nineteenth Century.—The philosophy of Kant and of Hegel, the theological principles of Schleiermacher and of Ritschl, the development of biblical criticism, the growing influence of natural science, the rise of the philosophy of evolution, and the significance of the Pragmatist movement, for an understanding of religion, are the chief topics for study. The problems raised for theology by these movements will be carefully considered. Those taking the course should have access to an adequate library, or should be willing to incur considerable expense for books. Prerequisite: course 3 or its equivalent and a general acquaintance with the history of modern philosophy. (Informal.) **DMj. ASSOCIATE PROFESSOR G. B. SMITH.**

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4B. Outline of Systematic Theology (cf. p. 68). **PROFESSOR GREENE.**

XLV. CHURCH HISTORY

1. Outlines of Church History.—A complete survey of the whole field of church history from the founding of the church in Jerusalem to the present time, with special emphasis upon the Ancient (100–800 A.D.) and Reformation (1517–1648 A.D.) periods. Some of the most important subjects that will come under investigation are: the conflict of the church with heathenism in the Roman empire; the rise and growth of the papacy; heresies, controversies, and parties within the church; the missionary expansion of the western church; the struggle between the papacy and the empire for supremacy; the rise and progress of the Reformation in Germany, France, Switzerland, England, and Scotland; and the recent development of the Protestant churches in Europe and America. **Mj. ASSISTANT PROFESSOR GATES.**

2. The Protestant Reformation.—Extent and state of Christendom at the opening of the sixteenth century; new forces that sweep away the old order of things; Zwingli, Luther, Calvin, as expressions of the spirit of the new era; estimate of the movement in its relations to the general historic process. **Mj. ASSOCIATE PROFESSOR MONCRIEF.**

3. The Missionary Enterprise of the Twentieth Century: Principles and Methods.—It is proposed in this course to make an outline study of the principles underlying the present-day Protestant missionary enterprise, and the methods it employs in the light of the experience of the first hundred years of its history. Interest in foreign missions was never before so wide-spread nor criticism of it so keen and intelligent. The time is approaching for the construction of a

science of missions. Large accumulations of material in the form of the reports of missionary societies and conferences, biographies, and correspondence are available. All pastors and Sunday-school teachers, all persons, men or women, responsible for the missionary activities of the church, all candidates for foreign missionary service should find this study profitable. It should be of particular interest in view of the great missionary exhibit in 1913, "The World in Chicago," for which plans are already making. Mj. PROFESSOR PARKER.

XLVI. PRACTICAL THEOLOGY

1. The Theory of Preaching.—This course corresponds to residence course 1 and embraces a study of the character and purpose of the sermon, the methods of preparation, and the manner of delivery. The laws of effective popular discourse are studied inductively in connection with the preparation of sermons by the student. Mj. PROFESSOR SOARES.

2. Survey Course in Religious Education.—An endeavor will be made to acquaint the student with the very significant field of religious education now receiving so much attention from all thoughtful workers in church and in general educational lines. In doing this an outline study of child development and the child's religious interests will be made. Such questions as the use of ethics and the application of general educational methods in religious education will be discussed. Special attention will be given to the Sunday school, its equipment, administration, properly graded curriculum, and the training of its teachers. Instruction will be by means of textbooks, topics for special study, reports on local observation of Sunday schools, and questions. The course is intended for pastors, Sunday-school superintendents and lay workers, and will be adapted to the needs of the individual student. Anyone who has had high-school training can follow the course with profit, but additional work and "Elementary Psychology" as a prerequisite will be required of those who wish University credit for the course. Mj. PROFESSOR SOARES AND DR. EVANS.

NOTE.—Related courses will be found under Departmental Nos. I A, I B, VI.

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1B. Homiletics (cf. p. 68).—PROFESSOR GREENE.

2B. Outline Course on Pastoral Duties (cf. p. 68).—PROFESSOR GREENE.

VII. THE ENGLISH THEOLOGICAL SEMINARY

I. GENERAL INFORMATION

The English Theological Seminary of the University of Chicago is intended to meet the needs of students who have not had the advantages of a college education and is open to all denominations of Christians. The applicant must present a ministerial license, or a certificate of ordination, or a statement from the church of which he is a member, approving of his purpose of devoting himself to the Christian ministry or other Christian service. He must also furnish the University, when requested, information concerning his church relations, etc. He will pay the University matriculation fee, \$5, once, and \$3 for each English Theological Seminary course chosen. The reinstatement fee for each of these courses is \$2.

II. COURSES OF INSTRUCTION

NOTE.—No credit toward any degree is allowed for these courses. They count only toward the English Theological Seminary certificate. A description of any of the following courses will be sent on application.

1B. Homiletics.—Mj. PROFESSOR GREENE.

2B. Outline Course on Pastoral Duties.—Mj. PROFESSOR GREENE.

3B. New Testament Times in Palestine.—Mj. ASSOCIATE PROFESSOR VOTAW.

4B. Outline of Systematic Theology.—Mj. PROFESSOR GREENE.

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CORRESPONDENCE-STUDY DEPARTMENT

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*Cf. with Dean Townsend
& Mr. M. C. Conn
(W)*

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III. GENERAL INFORMATION

Extra-Mural Teaching.—All non-resident work for credit is conducted through the Correspondence-Study Department.

1. Teaching by Correspondence.—Experience has shown that many subjects can be taught successfully by correspondence. *Direction and correction* can often be given as effectively in writing as by word of mouth. Obviously self-reliance, initiative, perseverance, accuracy, and kindred qualities are peculiarly encouraged and developed by this method of instruction.

2. Purpose and Constituency.—Through the Correspondence-Study Department the University endeavors to offer as many as possible of the courses given in the classrooms of its different divisions so that those whose formal schooling has been interrupted may continue their studies. Besides contributing to culture, many of the courses, because of their bearing on problems of everyday life, may be turned to immediate practical account. One may choose any course or courses for which he is prepared and begin at any time. The aim is to offer to anyone anywhere the opportunity of securing helpful and stimulating instruction from specialists.

The work appeals, therefore, to the following classes: (1) students preparing for college or professional schools; (2) college students who are unable to pursue

continuous resident study; (3) grammar and high-school teachers who cannot avail themselves of resident instruction; (4) teachers and others who have had a partial college course and wish to work along some special line; (5) instructors in higher institutions who desire assistance in the advanced study of some subject; (6) professional and business men who wish to supplement their training; (7) ministers and Bible students who would fit themselves better to use the Scriptures; (8) parents uncertain how to deal wisely with their children; in short, all who desire a broader knowledge or a more thorough scholarship.

3. Method of Instruction.—Each correspondence course is designed to be equivalent to the corresponding residence course, and contains therefore a definite amount of work. A **Major** (Mj.) calls for an amount of work which a student in residence would be expected to accomplish in twelve weeks, reciting five hours per week. A **Minor** (M.) calls for one-half as much work as a Major. The resident student who does full work completes three Majors every three months, but the correspondence student is allowed from twelve to fifteen months, according as he registers late or early in the quarter (or, if extension of time is granted, from twenty-four to twenty-seven months) for completing whatever number of Major or Minor courses he applies for (cf §. 6, *e* and *g*). On the other hand he is permitted to finish courses as rapidly as is consistent with good work. Courses are of two kinds, formal and informal.

a) The *formal* course furnishes a systematic and progressive presentation of the subject in a given number of lessons (cf. § 6, *o*). Each lesson contains: (1) full directions for study, including references to the textbooks by chapter and page; (2) necessary suggestions and assistance; (3) questions to test the student's methods of work as well as his understanding of the ground covered. After preparing for recitation the student writes his answers to the questions and mails them to the instructor, together with any difficulties which may have arisen during his study. This recitation paper is promptly corrected and returned. In like manner every lesson is carefully criticized by the instructor and returned, so that each student receives *personal guidance and instruction* throughout the course.

b) The *informal* course is designed for students who are pursuing studies of an advanced nature. The course is usually arranged between instructor and student to meet the particular needs of the latter. The formal lesson sheet is dispensed with, but the course is carefully outlined by the instructor, and the student is required to present satisfactory evidence that the work is being properly done. This evidence may consist of a number of short papers on special themes, a thesis covering the whole work, or it may partake rather of the nature of ordinary correspondence.

Courses are *formal* when not otherwise indicated.

4. Admission.¹—(*a*) No preliminary examination or proof of previous work is required of applicants for correspondence courses. Before matriculating or registering a student, however, the University does require certain information and reserves the right to reject applicants, or to recommend other courses than those chosen, if the data furnished on the application blank justify such action. If the applicant is rejected, or the substitution recommended is not accepted by

¹ If the student later comes to the University, he must satisfy admission requirements (see *Circular of Information of the Colleges*, pp. 15 ff.).

the student, all fees are refunded. The application blank will be supplied upon request. *In every case it should accompany the fee for a new course.*

b) A correspondence student whose standing in one of the Colleges or Schools of the University has not been definitely determined is ranked as an *unclassified student*.

5. Recognition for Work.—(a) A certificate is granted for the satisfactory completion of the recitation work in any Major or Minor course.

b) Admission credit is given for courses covering college-entrance requirements, which are satisfactorily completed and passed by examination.

c) College credit is given for courses of a college grade satisfactorily completed and passed by examination (cf. § 6, b, 1).

d) If the student has a record of residence work in the University, credits gained from correspondence courses are immediately transferred to that record; if not, they are held in the Correspondence-Study Department until the student secures such a record.

e) See also Regulations a) and b).

6. Regulations.—(a) The University of Chicago grants no degree for work done wholly in absence. A *minimum* of nine Majors (one year's work) in residence at the University of Chicago is required of everyone upon whom any degree save the Master's (cf. § 6, b, 2) is conferred.

b) Correspondence courses are accepted as meeting the study requirement for the different degrees as follows: (1) The candidate for a Bachelor's degree (A.B., Ph.B., or S.B.) may do eighteen of the required thirty-six majors of college work by correspondence. (2) The candidate for the Master's degree (A.M. or S.M.) may not offer correspondence work for any of that required for this degree, inasmuch as the maximum resident time and study requirement for this degree (nine months and eight majors) does not exceed the minimum requirement for any degree. (3) The candidate for the Doctor's degree (Ph.D.) may substitute correspondence for residence work *only* on approval, in advance, of the Head of the Department in which his work lies. Three years of resident graduate study are required for this degree. Very few non-resident students command the necessary library or laboratory facilities for graduate study.

NOTE.—The University of Chicago's Bachelor degree, or its full equivalent, is prerequisite for admission to candidacy for a Master's or Doctor's degree. If a student presents a degree inferior by less than nine (9) Majors he can make it equal to the University degree by means of correspondence courses and thus be free to devote his entire time in residence to graduate work (cf. § 6, a).

c) Non-resident work cannot be accepted as affording any time credit for the medical degree.

d) A student may begin a correspondence course at any time in the year.

e) A student will be expected to complete any course or courses *within one year from the end* (i.e., March 23, June 23, September 23, December 23) of the quarter in which he registers.

f) A student who, for any reason, does not report either by lesson or by letter within a period of ninety days may thereby forfeit his right to further instruction in the course.

g) Extension of time will be granted: (1) *for a period equal to the length of time which a correspondence student spends in resident study at the University of Chicago*, providing due notice is given the secretary and the instructor both at

the beginning and the end of such resident study; (2) *for one full year from the date of expiration of the course*, if, on account of sickness or other serious disability, the student has been unable to complete the course or courses within the prescribed time (cf. § 6, e), providing (a) he secures the consent of the secretary and his instructor, and (b) pays \$4 for each Major course or \$2 for each Minor course he wishes to continue. Private arrangement for extension of time between the student and his instructor cannot be recognized by the Department.

h) In order to secure credit for a correspondence course, the student must pass an examination on it at such time as is most convenient to himself and his instructor, either at the University or, if elsewhere, under supervision which has been approved by the University.

i) During an instructor's vacation a substitute will be provided, or the time for completing the course will be extended.

j) The fee for matriculation in the University (\$5) is required once, at the time of first registration, of each one who has not matriculated in the institution either as a residence or a correspondence student. The fee is general for the whole University.

k) No fee is refunded on account of a student's inability to enter upon or continue a course.

l) The matriculation fee will not be refunded to a student whose application has been accepted (cf. § 4, a).

m) The student must forward, with each lesson, postage (or, preferably, a stamped, self-directed envelope) for its return.

n) A student will be required to pay for but one Major or a Double Major (DMj.) course (e.g., Plane Geometry) at a time, unless he applies for both Majors.

o) Ordinarily, a Major consists of forty and a Minor of twenty lessons; but there may be variations from this number in order to accommodate the work to the requirements of a particular course. Each course represents a definite amount of work (cf. § 3), the number of lessons into which it is divided being incidental.

p) A course announced as a Major may not be taken a Minor at a time.

q) Each correspondence course is equivalent to the corresponding residence course, and commands credit (cf. § 5) unless definite statement is made to the contrary.

r) All informal courses are Majors unless otherwise indicated.

7. Expenses.—(a) All fees are payable in advance.

b) The matriculation fee is \$5 (cf. § 6, j); the tuition fee for *each* Minor course is \$3; for one Major course, \$16. If a student registers *at the same time* for two Major courses the tuition fee is \$30; for three Major courses, \$40. No reduction is made for Minor or Review courses included in a combination. A student registering for English Theological Seminary courses will pay the matriculation fee, \$5, and \$3 for each course taken. The tuition fee includes payment for the instruction sheets received. Textbooks which cannot be borrowed (cf. § 10) must be purchased by the student.

c) The student is required to inclose postage for the return of the lesson-papers (cf. § 6, m).

d) Money should be sent in the form of postal or express order or New York or Chicago draft, made payable to the University of Chicago. The Chicago

clearing-house charges exchange on all other forms of remittance—15 cents on sums up to \$50.

8. Method of Registration (recapitulated).—(a) File with the secretary of the Correspondence-Study Department a formal application for *each* course desired. The required application blank will be furnished upon request (cf. § 4, a).

b) *Forward with the formal application the necessary fees:* (1) \$5 for matriculation, if not matriculated in the University (cf. § 6, j); (2) \$8 for each Minor course, or \$16, \$30, or \$40, according as one, two, or three Major courses are applied for; (3) an additional fee for certain courses in Physics, Chemistry, Zoölogy, Botany, and Bacteriology.

9. Scholarships.¹

CLASS A.—Three scholarships, each yielding tuition in residence for one quarter (\$40), are awarded annually on April 1 to the three students who have begun, completed, and passed the *greatest number* of Major Correspondence-Study courses (but at least four) that represent new advanced work, with a grade of B or better for each course, during the preceding twelve months. If two or more persons finish the same number of Majors, the scholarships will be awarded to those whose average grade for the courses in question is highest, and in case of a tie here, in the order in which they finish, beginning with the earliest.

CLASS B.—A scholarship yielding tuition in residence for one quarter (\$40) is awarded to a student for *every four* different Major Correspondence-Study courses that represent new advanced work, which he has begun since April 1, 1904, completed, and passed with a grade of B or better for each course.

10. Books, etc.—For the convenience of students arrangements have been made with The University of Chicago Press whereby supplies, such as books, maps, etc., which are needed in the different courses can be furnished at prices which will be quoted on application to The Correspondence-Study Department. *In exceptional cases* some of these books may be borrowed from the University Library. Applications for loans should be addressed to the Librarian of the University of Chicago.

IV. THREE PROGRAMS OF HIGH-SCHOOL WORK

The 15 units² of high-school work required for admission to the University must include:

3 units of English.

7 units of subjects in Groups 1–6 (see below), to include *at least* 3 units in a single group and *at least* 2 units in another single group.

5 units of subjects for which credit toward its diploma is given by an approved school.

To fulfil admission requirements most effectively and to leave the maximum freedom of election in college, the following programs are recommended in preparation for college work leading to the different Bachelor degrees:

¹ Scholarships are good for any quarter. Two Minors are equivalent to one Major. English Theological Seminary courses are excluded from competition.

² A unit represents 150 hours of recitation. It is equivalent, as a rule, to two Majors.

A.B.	Units	P.A.B.	Units	S.B.	Units
English.....	3	English.....	3	English.....	3
Greek.....	3	One modern language 3 (or 2)		Science.....	3 (or 2)
Latin.....	4	History.....	2 (or 3)	Mathematics.....	2 (or 3)
Mathematics.....	2	Mathematics.....	2	One modern language.....	2
Electives from Groups		Science.....	2	History.....	2
3, 4, and 6.....	3	Electives from Groups 1-6	3	Electives from Groups 1-6.	3
Total.....	15	Total.....	15	Total.....	15

Group 1.—Greek.

Group 2.—Latin.

Group 3.—Modern Languages other than English (French, German, Spanish, Italian).

Group 4.—History, Civics, Economics.

Group 5.—Mathematics.

Group 6.—Science (Physics, Chemistry, Botany, Zoölogy, General Biology, Physiology, Physiography, Geology, Astronomy).

Any combination of the subjects within each group is permitted but not less than $\frac{1}{2}$ unit of any subject may be offered. Not less than 1 unit of Algebra, Plane Geometry, Physics, Chemistry, or a language may be offered. To meet the 2 or the 3 units-in-a-single-group requirement in Groups 1, 2, or 3, the work offered must all be in *one* language.

Correspondence-Study Courses Which Offer High-School Work¹

	Units
Political Economy—"Bookkeeping"	$\frac{1}{2}$
History—"Outline History of Antiquity to 337 A.D." (A and B)	1
Greek—"Elementary Greek" (A and B)	1
"Xenophon: <i>Anabasis</i> " (A and B)	1
"Homer: <i>Iliad</i> " (A and B)	1
Latin—"Elementary Latin" (A and B)	1
"Caesar: <i>De Bello Gallico</i> " (A, B, and C)	1
"Vergil: <i>Aeneid</i> " (A and B)	1
"Cicero: <i>Orationes</i> " (A and B)	1
French—"Elementary French" (A and B)	1
"Intermediate French" and "Advanced French"	1
Spanish—"Elementary Spanish" and "Intermediate Spanish"	1
German—"Elementary German" (A and B)	1
"Intermediate German" and "Intermediate Prose Composition"	1
"German Idioms and Synonyms" and "Modern German Dramas"	1
English—"Prep. English Composition,—A" and "Prep. English Literature,—A"	1
"Prep. English Composition,—B" and "Prep. English Literature,—B"	1
Mathematics—"Elementary Algebra" (A, B, and C)	1
"Plane Geometry" (DMJ.)	$1\frac{1}{2}$
"Solid Geometry"	$1\frac{1}{2}$
Physics—"Elementary Physics" (A and B)	1
Physiography—"Physical Geography"	$\frac{1}{2}$
Drawing—"Freehand Drawing"	$\frac{1}{2}$
"Projective Geometry"	$\frac{1}{2}$

V. THE REQUIREMENTS FOR A BACHELOR'S DEGREE

A total of 66 Majors representing four years (15 units, approximately 30 Mjs.) of high-school work and four years (36 Mjs. with 72 "grade points") of college work are required for a Bachelor's degree. Any amount of the high-school work and as much as one-half (18) of the 36 Majors of college work may be done by correspondence.

REQUIRED COLLEGE WORK

1. *Specified Courses*.—"English I" and "English III."

2. *Continuation Courses*.—Three Majors of that subject in which 3 (or 2) units of admission work are offered or of that subject in which one unit of Senior high-school work is offered.

¹ These courses, when completed and passed, will be accepted in lieu of entrance requirements. Many of them will yield college credit if not offered for admission.

3. *Distribution Courses*.—Enough Majors in each of the following groups to make the total (high-school+college) credit 4 Majors (=2 units).

- I. Philosophy, History, and Social Science: Departments I–VI.
- II. Modern Languages other than English (all 4 Majors in one language): Departments XIII, XIV. Every student must prove his ability to read the foreign language with ease and intelligence by passing a test examination.
- III. Mathematics: Department XVII.
- IV. Science: Departments XVIII–XXVIII.

4. *Sequences*.—(a) One *principal* sequence of at least 9 coherent and progressive Majors taken in one department or in a group of departments. (b) One *secondary* sequence of at least 6 Majors selected from a different department or group of departments. These sequences must have the approval of the Dean. The work in the Divinity School, the Law School, the courses in Medicine, or the College of Education, may be counted in satisfaction of either sequence.

The degree of A.B. is conferred when the principal sequence consists of 11 Majors of Latin and 9 Majors of Greek (7 if all are taken in residence at the University) including entrance work. A secondary sequence of 6 Majors is also required.

The degree of Ph.B. is conferred when the principal sequence has been taken in Departments I–XVI.

The degree of S.B. is conferred when the principal sequence has been taken in Departments XVII–XXVIII.

Mathematics may, at the option of the student, be used as the principal sequence for either the Ph.B. or S.B. degree.

No courses counted in satisfaction of entrance requirements, or of the provisions of paragraphs 1 and 3, shall count in making up the principal and secondary sequences, except in the case of the 9- and 11-Major groups in the requirements for the A.B. degree.

Not more than 15 Majors may be taken in college in one department.

VI. COURSES OF INSTRUCTION

I. PHILOSOPHY

1. *Logic*.—The topics considered in this course are those usually included in a survey of logic—such as the concept; the various forms of judgment; inductive and deductive aspects of reasoning; the nature and use of the hypothesis; methods of inductive inquiry and experimental investigation; syllogisms and fallacies, etc. Stress will be laid on the functional aspect of thought processes and attention will be called to underlying psychological principles. The aim throughout will be to emphasize the vital connection between logic and the practical problems of everyday life and to show that thinking in the strictly logical sense is a constructive process arising out of the needs of the individual and finding its value in enabling him to organize more adequately his experience and to deal more effectively with the subject-matter with which his thinking is concerned. The student may expect, accordingly, to acquire not only a practical knowledge of logic and a certain training in critical habits of thought but also a good basis for subsequent philosophical study. While “Elementary Psychology” is a helpful preliminary, the course may be taken with profit by those who are prepared for thorough study. Mj. DR. ASHLEY.

2. Ethics.—An introductory course intended (1) to familiarize the student with the main aspects of ethical history and theory, and through this (2) to reach a method of estimating and controlling conduct. The main divisions of the course are: (a) the general nature of moral conduct; (b) a study of the evolution of the moral problem from primitive life to the present; (c) a comparative study of current ethical theories; (d) application of the foregoing to present problems of social and individual life. The course will be based on the text of Dewey and Tuft's *Ethics*, with collateral study of Mill's *Utilitarianism*, Kant's *Metaphysics of Ethics*, and Spencer's *Data of Ethics*. Mj. DR. ASHLEY.

3. Greek and Mediaeval Philosophy.—This course is designed (1) as a survey of the history of thought, considered in its relations to the sciences, to literature, and to social and political conditions, and (2) as an introduction to philosophy through a more careful study of some of the most important systems. Special attention will be given to the study of the more important dialogues of Plato and to Aristotle's *Ethics*. Mj. PROFESSOR TUFTS.

4. Modern Philosophy.—Descartes to Hume, with special study given to Descartes' *Meditations*, Locke's *Essay*, Berkeley's *Principles of Human Knowledge*, and a portion of Hume's *Treatise on Human Nature*. Mj. PROFESSOR TUFTS.

5. Introduction to Kant.—Watson's *Selections* and Mahaffy and Bernard's editions of *The Critique of Pure Reason* and *Prolegomena* will be made the basis of the work. The course will be opened with a brief study of the thought of Leibnitz, for which Dewey's *Leibnitz* will be used. This will be followed by a brief outline of Kant's early development, and a detailed study of the more important portions of *The Critique* as found in Watson's *Selections*. Prerequisite: course 4, or its equivalent. Mj. PROFESSOR TUFTS.

6. Movements of Thought in the Nineteenth Century.—The course continues in less technical manner the history of modern philosophy: romanticism as represented by Rousseau and certain poets; idealism in German philosophy and in Carlyle; utilitarianism; positivism; transcendentalism as seen in Emerson's view of nature and man; the doctrine of evolution, particularly in its relation to human society and the problems of morality as considered by Huxley; the relation of the scientific to the philosophic point of view as defined by Royce. Those who register for the course should have access to a good library or be prepared to purchase a number of books. Prerequisite: two of the three courses, 3-5. Mj. PROFESSOR TUFTS.

7. Contemporary Philosophy.—Eucken, Bergson, and James are the writers to be studied in detail. They are typical of philosophical tendencies. Eucken represents a modified form of German idealistic tradition with a dominant religious interest, Bergson is the culmination of one phase of nineteenth-century French thought, and James embodies in his many-sided pragmatic philosophy the characteristic empirical method of England and America. The problems considered are: (1) the psychological assumptions of each author; (2) the logical method used; (3) relation to preceding philosophical thought; (4) attitude to science; (5) ethics and religion; (6) the definition of time; (7) freedom, the absolute, truth, and God; (8) the claims of intellectualism and pragmatism; (9) the characteristics of mysticism. A feature of this study is the opportunity it gives the student to examine writers who are actually read and who exert influence, and to formulate by comparison and criticism a point of view of his own. Mj. DR. TALBERT.

8. Evolution and Modern Thought.—To trace the important consequences of Darwin's theory and method is the object of this course. Starting with an outline of the elements of Darwin's hypothesis, attention is first directed to the history of the English development, followed by a consideration of the contributions of selected European and American writers. Ethics, politics, sociology, logic, aesthetics, and psychology are the fields in which the influences of the doctrine of evolution are considered. The conclusion of the study suggests the way in which the concept of evolution affects general philosophical attitudes as

expressed by recent schools of philosophy. Some of the writers included are Spencer, Huxley, Ritchie, Green, Bradley, Kropotkin, Bergson, Wundt, Hirn, Royce, and James. Since the course covers an extensive field it is desirable for the student to select a special problem for more detailed study. To avoid the necessity of a large library, the lesson notes contain fuller discussions than is ordinarily the case. **Mj. DR. TALBERT.**

9. Hindu Philosophy.—The course will trace the growth of philosophic thought in India from the *Rig Veda* through the *Upanishads* to the six great philosophical systems. Especial attention will be paid to the Vedānta, the Sāṃkhya, and the Yoga systems. **Mj. DR. CLARK.**

IA. PSYCHOLOGY

1. Elementary Psychology.—This course takes up the general study of mental processes. It aims to train the student to observe the processes of his own experience and those of others, and to appreciate critically whatever he may read along psychological lines. It is introductory to all work in philosophy and pedagogy, and is an important part of equipment for historical and literary interpretation. **Mj. ASSISTANT PROFESSOR CARR.**

2. Advanced Psychology.—This course presupposes such a familiarity with the subject-matter of psychology as may be gained from course 1 or from intimate acquaintance with Angell's *Psychology*, James's *Briefer Course in Psychology*, Royce's *Outlines of Psychology*, Titchener's *An Outline, and Primer of Psychology*, or Wundt's *Outlines of Psychology*. It may then properly be described as a continuation of the study or an *advance* upon an elementary presentation of the science with a view to further grounding in methods, and a reconsideration of some of its salient problems in the light of recent specialized studies. **Mj. DR. MACMILLAN.**

3. Psychology of Thinking (Introductory Course).—The purpose of this course will be to investigate the character and function of thinking. Thinking will not be regarded in accordance with popular usage as a common term for all sorts of imagery but will be treated as a reflective process, which arises because of difficulties in our experience and has its object and justification in their solution. The psychology of thinking will include, therefore (1) a preliminary study of conduct, or behavior, with a view to determining the conditions which give rise to problems and reflective processes, and (2) a more detailed account of the way in which thinking proceeds in our attempt to solve these problems. In connection with the general investigation various applications to education, science, and practical affairs will be pointed out—partly for the purpose of illustration and partly for the value which the student who is interested in these fields will derive from the point of view which the course will tend to develop. No special preparation is required as a prerequisite, but any work which the student may have had in biology or psychology should be of considerable assistance. **Mj. DR. ASHLEY.**

4. Social Psychology.—Mind is treated from the standpoint of its organizing, communicating function in social groups. The basis of the theory of social consciousness is derived from recent studies in gesture, language, and instinct. Questions proper to this science are: (1) the genesis and development of consciousness in the family, gang, school, club, voluntary association, and nation; (2) the social character of instinct, feeling, perception, and thinking; (3) the interpretation of the crowd, fashion, and custom; (4) criticism of the prevalent doctrine of imitation and suggestion; (5) political parties, the newspaper, and the public will; (6) democracy and leadership. German, French, and English writers are utilized, but most importance is attached to the views of American social psychologists and application to present problems in education and politics. **Mj. DR. TALBERT.**

5. Psychology of Religion.—Emphasis is laid on the origins of religion in primitive society, the function of religion from psychological and sociological points of view and its relation to science and democracy. Part I treats the

salient aspects of primitive religion—as custom, taboo, magic, ceremonial, myth, spirits, sacrifice, and prayer. Part II discusses the evolution of religion in the individual from childhood to maturity; the psychology of conversion and religious education are important topics. In Part III the wider aspects of religion are studied: The value and limitations of sects, the nature of religious genius, non-religious persons and the difference between the religious attitude of primitive man and the attitude of the modern individual. Throughout the course the purpose is to consider religion as a normal phenomenon related to human values and institutions and having an identical function from past to present, notwithstanding vast changes in its forms and doctrines. Mj. ASSISTANT PROFESSOR AMES AND DR. TALBERT.

IB. EDUCATION

THE HISTORY OF EDUCATION

1. History of Education.—This course covers in outline the history of education from savagery to the present time. The subject is presented in such a way as to enable the student (1) to gain a conception of the relations of the ideals of an age to general industrial and social conditions; (2) to discover the more important steps in the development of educational theory and practice; and (3) to get a background for the evaluation of the various factors in the problems which command attention today. Emphasis is placed upon great movements rather than upon individuals. Eminent philosophers and educators are considered, but they are treated with reference to the movement to which they have contributed. Mj. DR. DOPP.

2. A Comparative Study of the School Systems of Germany, England, and the United States.—The course will trace the historical development of the existing systems of elementary and secondary education, with especial emphasis upon the characteristic ideals that have differentiated them, and upon present tendencies. Mj. PROFESSOR BUTLER.

3. State and Municipal School Systems of the United States.—A study will be made of certain state and city school systems, the attempt being to select a few examples of what may be regarded as the best types of organization of public education, and a few of the opposite character. The object in study will be, through acquaintance with what has been tried and proved, to arrive at as clear a judgment as may be as to what is fundamentally sound in organization and administration, and to note what modifications are required by local conditions. Students should consult the instructor before registering. Mj. PROFESSOR BUTLER.

ADMINISTRATIVE AND SOCIAL ASPECTS OF EDUCATION

4. School Administration and Supervision.—This course is designed for superintendents, principals, supervisors, and teachers who wish to prepare themselves for supervision and administration. It deals with the following topics: (1) organization of state school systems; (2) distribution of educational functions among state, county, town, and district officials; (3) municipal school systems; (4) the school board; (5) superintendent and supervisory staff; (6) the budget and its distribution; (7) school sites, buildings, heating, ventilation, lighting, sanitation, furniture, and equipment; (8) relations of administrative and supervisory officials to school boards, teachers, pupils, parents, and the community in general; (9) grading, testing, and promotion of pupils; (10) textbooks and schoolroom appliances; (11) courses of study from the superintendent's point of view; (12) preparation, certification, appointment, tenure of service, and promotion of teachers; (13) supervision of teaching and the training of teachers while in service; (14) compulsory education and child-labor legislation; (15) the education of exceptional children, delinquents, and defectives; (16) organization of vocational education, evening schools, and continuation classes; (17) physical education, medical inspection, playgrounds, and play centers; (18) educational statistics and reports; (19) new administrative demands being

created by our present rapid expansion of educational functions. The course aims at a wide perspective view of organization for those who must direct the many serious readjustments that are now being made in our school systems with ever-increasing rapidity. Mj. DR. BOBBITT.

5. Problems in Secondary Education.—The course will discuss education as training for social efficiency: the intellectual, social, physical, and moral elements in education; adolescence; the high-school curriculum; handicrafts in secondary education; electives; the extension of the high-school course by the addition of two years; the school and the community; "the many-sided interest" on sending boys and girls to college. The student will be expected to make a study of schools in his neighborhood and to make reports upon these schools, in relation to the general topics studied. Mj. PROFESSOR BUTLER.

6. The Evolution of Industries and Their Place in Education.—This course is designed to meet the needs of those supervisors, principals, and teachers who are attempting to incorporate industrial education in the course of study. It aims (1) to afford an insight into the principles of selection by means of which industries and occupations of various sorts may be tested; (2) to present the most fundamental features of industrial evolution; (3) to make a more particular study of several typical industries; (4) to make a practical application of these studies to the elementary and high schools; and (5) to help the teacher gain information regarding the literature of the subject and the nature of the materials and apparatus required. Mj. DR. DOPP.

7. Industrial Education in Public Schools.—The course begins with an explanation of the meaning of the present widespread movement for industrial education, and a discussion of its relation to other phases of vocational training. This is followed by a historical sketch of industrial education in the United States since 1876, which serves to show the relation between manual training and industrial education. A complete analysis of the present demand for industrial education is made, and consideration is given to the attitude of the manufacturer, of organized labor, of the educator, and of the social worker. Educational ideals are discussed briefly and a statement is made of the necessary revision of these ideals involved in the evolution of the school system to meet the demand for industrial education. A comprehensive plan of organization for school systems of industrial communities is discussed in detail and a study is made of all the existing types of industrial schools or classes. These include elementary or pre-vocational, intermediate, secondary, trade, part-time, continuation, and evening schools. Reference is also made to some private experiments in trade training. Among the topics discussed in their relation to industrial education are the following: (1) industrial history; (2) labor and capital; (3) elimination of waste; (4) specialization and concentration; (5) basis of differentiation between elementary and secondary education; (6) vocational guidance; (7) state legislation. Mj. ASSOCIATE PROFESSOR LEAVITT.

8. Primitive Arts as Educational Means.—This course treats of such typical arts as the dance and pantomime, the festival, music, poetry, the graphic and the plastic arts with reference to (1) their genesis, growth, and differentiation; (2) their practical, intellectual, social, and aesthetic values; and (3) their significance in elementary education. Mj. DR. DOPP.

EDUCATIONAL PSYCHOLOGY AND EXPERIMENTAL EDUCATION

9. Educational Psychology.—A study of the fundamental psychological processes, with especial emphasis upon those which have direct relation to educational problems. The application of mental laws both to general educational procedure and to the conduct of the special disciplines is made throughout. For example, the general problem of interest, and the particular school subjects, reading, writing, and number, are treated from the psychological point of view. Attention is given also to the mental development of the child. Mj. DR. FREEMAN AND DR. ASHLEY.

10. An Introduction to Child-Study.—Child-study in the widest sense aims to give scientific information concerning the normal life of children. Necessarily it emphasizes natural growth and normal functioning in every aspect, but it must touch upon abnormal growth and the conditions and situations that influence favorable and unfavorable physical and mental constitution and action. This course is designed principally to acquaint students with such phases of the physical and mental life of children of school age as the hygienist and teacher should be familiar with. It reviews the main problems that have been or are being investigated, as well as the current methods of correcting, standardizing, and presenting data concerning child growth and education, and suggests lines of inquiry that are of vital interest to the well-informed worker with children. Mj. DR. MACMILLAN.

11. Classifications and Care of Children.—This course will deal with a special problem of child-study, namely, the variations that differentiate children. Starting with the characteristics common to all children, it will emphasize the varieties or departures from the common or typical which require special care in the home and special training and opportunities in home and school. While primarily designed for students who aim to specialize in the investigation, or the teaching, or the care and treatment of special children, much of the course can be made adaptable to meet the interests and needs of regular teachers and mothers. It presupposes an acquaintance with the course entitled "An Introduction to Child-Study" or its equivalent. Mj. DR. MACMILLAN.

EDUCATIONAL METHODS AND PRINCIPLES

12. Principles of Education.—This course is designed to introduce students to the study of Education from a historical and scientific point of view. The readings are intended to arouse in the minds of the students some inquiries with regard to the possibilities of organizing the course of study in such a way that it shall be based upon psychological and sociological principles rather than mere tradition. Mj. DR. FREEMAN.

13. An Introduction to the Theory and Practice of the Kindergarten.—The aim of the course is: (1) to make a careful study of the best material, songs, games, and stories for children of kindergarten age; (2) to compare those we have today with those selected by Froebel, thus illustrating his anticipation of many phases of the child-study movement; (3) to find the right place and relation of his ideals to the later principles and methods of genetic psychology. Mj. MRS. PUTNAM.

14. Curriculum for the Primary Grades.—This course is planned for the practical help, of primary teachers, kindergartners, and supervisors. It will consider (1) the intrinsic relations between the kindergarten and primary grades; (2) various factors in the making of a curriculum for the first three grades and the organization of subject-matter in these grades; (3) the relative proportion and the relation of children's independent work at their seats to the recitation period; (4) the relation of reading, writing, number, and constructive work to the rest of the program; (5) the simplifying and unifying of the day's program. Since the teaching of reading is rather the unique problem of the primary grades especial attention will be given to a discussion of the principles involved, legitimate tests of what constitutes good reading, and prevalent methods considered in the light of these premises. Each lesson will give an opportunity for help in meeting individual problems in the subject under consideration. The aim is to enable teachers to organize work in the primary grades effectively and to carry out work already organized more intelligently and successfully. Mj. MISS WYGANT. Registrations accepted after October 1.

15. Principles of Method for Elementary-School Teachers.—This course which is designed for supervisors as well as for elementary-school teachers treats of the principles underlying the learning process and the selection and organization of subject-matter. Typical modes of activity, such as dramatic play, modeling in sand and clay, drawing, painting, excursions, field-trips, experimental

work, illustrative and real constructive work, and language, are considered as means of providing first-hand experience which the child needs in order to understand the subject-matter presented in books and other symbols. The principles considered are applied to the teaching of history and nature-study. **Mj. DR. DOPP.**

16. Principles of Method for High-School Teachers.—This course discusses the general principles of method which are fundamental in the teaching of all high-school subjects, and indicates by concrete illustrations from these subjects how the principles apply. The following topics are taken up: (1) broadening conceptions of the purpose of high-school education; (2) the machinery of school-keeping; (3) factors determining the selection and arrangement of subject-matter; (4) processes of learning—motor learning, learning involving simple associations, learning involving analysis and reasoning, the development of appreciation, etc.; (5) incentives, motives, stimuli in learning; (6) typical methods of conducting instruction; (7) testing the results of instruction; (8) planning instruction. **Mj. DR. DOPP.**

17. The Training of Children (for Mothers).—The special aim of the course will be to bring to the mother or teacher such practical knowledge of the fundamental laws of the growth and development of children as will be applicable in the home, beginning in the nursery and following through the periods of childhood and adolescence. It will treat of the problems of play, interest, habit, etc., and will aim to show how Froebel, the originator of the kindergarten, would make the child the chief agent in his own development, and at the same time offer a basis for an intelligent and willing obedience to law. The standards of, and reasons for, present educational methods will be discussed, that parents may judge discriminatingly of the school work which is being done by and for their children, and determine whether it is really making for the best all-sided growth of the child. **Mj. MRS. PUTNAM.**

NOTE.—Related courses will be found under Departmental Nos. I A, IV, VI, XII, XIV, XV, XVI, XVII, XXI, XXI A, XXII, XXIV, XXVII, XLVI, CXXII, CLI, CLV.

II. POLITICAL ECONOMY

1. Principles of Political Economy.—

A. This course endeavors to point out to the student the main characteristics of our present industrial system. This is done by an examination of its development and by an analysis of its features. A careful study is made of the economic laws governing the production, consumption, and exchange of wealth. **Mj.**

B. In this course the problems of distribution and several of the concrete problems of the day are discussed. Among the subjects treated are the following: rent; wages; interest; profits; money; banking; international trade; the tariff; trade-unionism; socialism; taxation and public finance. Prerequisite: course 1 A. **Mj. PROFESSOR MARSHALL AND ASSISTANT.**

NOTE.—A and B are equivalent to courses 1 and 2 in residence and are required of all candidates for a degree in the College of Commerce and Administration, as well as for advanced work in Economics.

2. Economic History of the United States.—A general survey of the subject aiming to acquaint the student with the economic problems and forces as they developed and shaped the course of American history—a phase frequently neglected, but of fundamental importance for a proper understanding of the history of the American people. Among the main topics treated are: (1) colonial agriculture, industry, and commerce; (2) economic aspects of the Revolution; (3) the opening up and settlement of the West; (4) the public lands; (5) internal improvements; (6) railways and waterways; (7) slavery; (8) immigration; (9) the merchant marine; (10) foreign commerce; (11) the development of agriculture; (12) the rise of manufactures; (13) the growth of trusts and trade-unions. **Mj. ASSOCIATE PROFESSOR WRIGHT AND ASSISTANT.**

3. Money and Banking.—This is a general descriptive course on the principles and history of money and banking. About one-third of the time will be devoted to money and the remainder to banking. In method, the descriptive material relating to and the principles underlying present institutions are presented first, and the historical study is then made to bear directly upon present forms of organization. The early history of currency and the evolution of modern money; the monetary history of the United States, and the present system; and an outline of the principal foreign systems, constitute broad divisions of the monetary study. On the banking side, the present organization of banking and credit in the United States is treated analytically, with especial emphasis upon the principles of banking operations and accounts. The early history of banking in Europe and the growth of modern banking institutions there are outlined; while a detailed study of our own banking history is given. This includes the development of credit instruments, clearing-houses, savings and postal savings banks, national banks, state banks, private banks, and trust companies. The course does not go into the deeper questions relating to the influence of money and credit on price levels; and it does not take up the problems of banking legislation, or proposed plans for the reform of our banking and credit system. These topics properly constitute the subject-matter of advanced courses. Mj. MR. MOULTON.

4. Finance and Taxation.—This course will deal chiefly with the practical workings of the taxes levied for the support of national, state, and local government. As introductory to the main study the causes of increasing public expenditure will be examined with a view to determining effects upon the distribution of wealth and upon tax systems. The problems involved in the levying of such taxes as the customs duties, income tax, single tax, corporation, railroad, and mortgage taxes will be examined at length. The general property tax will be treated primarily as a problem in tax administration. In addition to the regular lesson papers short essays will be required upon selected topics in local finance, thus enabling the student to become familiar with some phase of taxation in the community in which he lives. Mj. MR. GARVER.

5. Labor Conditions and Problems.¹—This course treats of the genesis of the wage working class and of its legal and industrial status under modern capitalism. It aims to deal concretely with existing conditions and problems of labor—the current rates of wages, and standards of living of the workers, modes of wage payment, hours of labor, conditions of sanitation and safety, industrial accidents and diseases, unemployment and superannuation, legal protection, etc. It intends to give the student a basis for judicious consideration of the solutions of labor problems offered by trade-unionism, socialism, and current reform projects. Prerequisite: courses 1 A and B. Mj. ASSOCIATE PROFESSOR HOXIE AND ASSISTANT.

6. Trade-Unionism and Labor Legislation.—A historical and comparative study of trade-unionism and labor legislation in the United States and foreign countries. Among the topics treated in this course are the following: causes of the formation of trade-unions; nature of trade-union organization; relations of trade-unions with employers—collective bargaining, strikes, boycotts, lock-outs, arbitration, conciliation, etc.; trade-union policies—minimum wage, normal day, apprenticeship system, etc; legal status of trade-unions; factory legislation; employers' liability; workmen's insurance. Prerequisites: course 5 or its equivalent. Mj. ASSOCIATE PROFESSOR HOXIE AND ASSISTANT.

7. Railway Conditions.—A course designed for young railroad men of restricted experience, and also for those desiring to enter the service. The lesson papers treat in order: (1) general organization; (2) freight traffic and operation; (3) passenger traffic and operation; (4) signaling and train service; (5) track, locomotive, and car equipment; (6) auditing; (7) economic and legal relations. No one of these subjects is treated exhaustively, but the diligent student is assured of a useful understanding of modern practice, which should be of help to him in securing advancement. 1½ Mjs. PROFESSOR DEWSNUP.

¹ Registrations accepted after October 1.

8. Modern Socialism.—In this course a careful study is made of modern socialist theories, especially those of Karl Marx. In addition to the theoretical work a study is made of the growth and development of the Socialist Party in Germany, France, England, Austria, Italy, and other European countries as well as in the United States. Among the topics treated in this part of the course are the causes of the growth of socialism in various countries; the relation of the socialists to the trade-unionists; the platforms and programs of the socialist parties; and the reforms already accomplished by the socialists in the countries where they have attained considerable power. Prerequisite: course 5 or its equivalent. Mj. ASSOCIATE PROFESSOR HOXIE AND ASSISTANT.

ACCOUNTING

9. Bookkeeping.—This course is a full treatment of the principles of bookkeeping. Its purpose is to acquaint the student with the theory and nature of accounts. The subjects treated will be (1) forms of accounts, (2) books used in accounting, (3) mode of handling commercial papers, (4) the recording of transactions, and (5) double-entry methods in retail business. In the first half of the course a proprietary business will be conducted and properly closed. Following this, a retail partnership is opened, introducing a new line of trade, and distributing profits proportionately among partners. All principles presented will be practically illustrated by a series of transactions which the student will be required to enter in a set of forms which accompany the textbook required in the course. Prerequisite: a working knowledge of arithmetic. [This course commands admission credit only.] Mj. MR. KEEN.

10. Wholesale Partnership Accounting.—This course follows course 9, and is designed for students who have completed that course, or who are familiar with the principles of bookkeeping therein enunciated. The articles of co-partnership are introduced and explained: the net profits or losses are carried to the partners' accounts, and the books formally closed. New accounts pertaining to a wholesale trade are taken up, in addition to those previously studied. Special attention is given to the method of handling invoices and sales by the loose-leaf system, also to the sales ledger, the bills receivable, and the bills payable books. A system of keeping departmental costs will be fully carried out, showing a comparison of the costs and sales in the several departments in the business. As in course 9, the student will be required to do the practical work in recording transactions, and handling the commercial papers pertaining thereto. Mj. MR. KEEN.

11. Corporation Accounting.—In this course will be studied the formation of corporations; the conversion of a partnership into a corporation and the treatment of good-will; the special accounts and books used in corporation accounting; the manner of issuing, transferring, and canceling stock; the making of forms of balance sheets, and a study of the items composing the same; the income accounts; the declaring and payment of dividends; reserve fund; depreciation, surplus, and the closing of the books for the year. The student will be required to do practical work illustrating the above principles; and in connection with the references given to prepare papers on the special topics. Prerequisite: course 9, or its equivalent. Mj. MR. KEEN.

12. Cost Accounting.—This course is designed to give a correct understanding of that type of accountancy which deals with preparing products for the market. Due consideration will be given to all the elements and principles involved in the process of manufacturing. A synthetic set of problems will be used to illustrate in detail the direct relation of expense to output. Prerequisite: course 11 or its equivalent. Mj. MR. KEEN.

13. Bank Accounting.—This course makes a study of the books employed in banks for original and subsequent entry. Full instruction is given for opening and closing such books and all processes are amply illustrated. The transactions to be handled comprise the actual business of a bank for a period of six months. After these transactions have been correctly entered, the books will be closed,

a financial statement rendered, and a thorough review given upon the principles covered in the course. Prerequisite: course 9 or its equivalent. Mj. Mr. KEEN.

14. Auditing.¹—This course is designed to cover the subject of auditing and includes a consideration of (1) the duties of auditors; (2) the method of preparing for an audit; (3) the responsibilities which must be assumed by the auditor; (4) the various books to be examined and the method of examination; (5) a differentiation of charges to capital and to revenue account. It will also take up the balance sheet of various corporations and the method of treatment in proving up the items shown therein. Special attention will be given to reserves, depreciation, amount available for dividends, and the valuation of the assets. Mj. Mr. ———.

III. POLITICAL SCIENCE

1. Civil Government.—This course is devoted to an analysis of the organization and activities of the American government, local, state, and national. Some of the topics treated are: (1) the historical foundations of American institutions; (2) the evolution of federal and state constitutions; (3) the development of political parties and party machinery; (4) nominations and elections; (5) the organization, powers, and duties of the executive, legislative, and judicial departments of the federal, state, and local governments; (6) city government; (7) territorial government; and (8) some of the problems of American government. This course covers the ground of course 1 in residence. Mj. Mr. EVANS.

2. Elements of Business Law.—This course deals with the following branches of private law: (1) contracts; (2) sales; (3) bills and notes; (4) agency; (5) partnership; (6) private corporations; (7) bailments; (8) guaranty and suretyship. These are the subjects most closely connected with the ordinary transactions of business. The general doctrines and underlying principles of these branches are discussed and analyzed and their application illustrated by actual cases. To indicate the scope of the work the following topics will receive attention in dealing with (6) *private corporations*: (a) formation of a corporation; (b) capitalization; (c) common and preferred stock; (d) bonds; (e) ownership and transfer of shares; (f) liability of shareholders; (g) management of corporations; (h) corporate meetings; (i) the powers and duties of officers; (j) the legal powers of the corporation; (k) dividends; (l) dissolution and liquidation of corporations. The purpose of this course is twofold; (1) to give to the man of business a knowledge of the general character and extent of his legal rights and duties; (2) to give to the general student an introduction to the study of the nature and doctrines of American private law, so far as they are illustrated in the subjects treated. Mj. ASSISTANT PROFESSOR HALL.

3. Elements of International Law.—A study of the rules observed by civilized nations in their relations with each other. The course includes a general consideration of the history and development of international law and a more detailed study of the subject in its three fundamental divisions of peace, war, and neutrality. Some of the topics treated are the nature, sources, and divisions of international law; the intervention of one nation in the affairs of another; the rights and duties of nations in connection with property; the extent and nature of a nation's jurisdiction over its territory, subjects, and public and private vessels; the rights and duties of diplomacy; modes of warfare; recognition of belligerency; effect of war on treaties; rules of war on land and sea; rights and duties of neutral states; blockade; contraband of war; etc. The course is not strictly technical in character, and should prove of value to those desiring a better understanding of current international affairs, as well as to lawyers and teachers of history and political science. The work will be based on a standard text, supplemented by a book of cases on international law. Mj. ASSISTANT PROFESSOR HALL.

¹ May be available later in the year.

4. Constitutional Law in the United States.—A study of the principles of constitutional law as they have been developed in relation to the federal constitution and to some of the more important provisions of the state constitutions of the United States. The general topics discussed are: (1) the nature of American constitutional law; (2) making and changing of the American constitution; (3) separation of power; (4) function of judiciary in enforcing constitutions; (5) political rights; (6) personal and religious liberty; (7) protection to persons accused of crime; (8) due process of law and equal protection of the law in regard to procedure, the police power, power of taxation, and the right of eminent domain; (9) laws impairing the obligations of contracts; (10) powers of the federal government and their exercise; (11) regulation of commerce; (12) inter-governmental relations, and (13) jurisdiction of the federal courts. This course is based upon the study of actual cases, which, wherever practicable, have been so selected and arranged as to show not only the law as expounded by the courts today, but also its historical development. This is supplemented with the text which gives an exposition of the general rules derived inductively from a study of the cases. As far as possible technical terms are avoided so that the course will be of equal value to the general student, the political scientist, and the lawyer. **Mj. ASSISTANT PROFESSOR HALL.**

NOTE.—Related courses will be found under Departmental Nos. II, IV, and VI.

IV. HISTORY

ACADEMY

1. Outline History of Antiquity to 337 A.D.—The ground of ancient history with which students entering college are expected to be familiar, is covered. A and B together satisfy the entrance requirement in history. The suggestions for study are made very definite as helps to beginning students and as an outline of work for high-school teachers.

A. *Oriental and Greek History to 146 B.C.*—A general narrative and descriptive history of Greece to the Roman conquest, with a brief introductory sketch of the oriental nations that especially influenced Greek civilization. **Mj.**

B. *Roman History to 337 A.D.*—A general view of Roman history from the early Republic to the establishment of the later Empire in the fourth century, paying special attention to the government and institutions of the latter as a basis for an intelligent study of the mediaeval period. **Mj. ASSISTANT PROFESSOR KNOX.**

COLLEGE

2. History of Antiquity to the Fall of the Persian Empire.—In this course the history of the nations of the ancient East—Babylonia, Egypt, Assyria, Syria, Israel, etc.—is studied in its development from the beginnings of organized political life to the fall of the world-empire of Persia. A large amount of reading is expected of students. **Mj. ASSISTANT PROFESSOR KNOX.**

3. History of Greece to the Death of Alexander.—This course presupposes a general knowledge of the external facts of Greek history (course 1A), and undertakes to conduct the student into an investigation of the underlying principles and forces which condition the outward events. It is intended for those who wish to go thoroughly into the subject, and are willing to give their time and thought to it. **Mj. ASSISTANT PROFESSOR KNOX.**

4. History of England to the Accession of the Tudors.—Early Britain, its Romanization, the settlements of the invading German tribes, the struggle for supremacy, the union of England under Wessex, the Norman Conquest, the struggle of the people for constitutional rights, civil and foreign wars, and the beginning of the Renaissance in England will be studied. **Mj. ASSISTANT PROFESSOR KNOX.**

5. England from Henry VII to Edward VII (1485-1900).—While a general view of political policy, foreign and domestic, is the chief aim of the course,

pecial attention is given to such important topics as the growth of parliament, of democracy and imperialism, and considerable stress is laid on religious, economic, and social movements. Mj. ASSISTANT PROFESSOR KNOX.

6. Outline History of Mediaeval Europe (350-1500).—The invasion and settlement of the barbarians, the revival of the empire, the growth of the papacy, and the struggle between those two, Mohammed and his religion, the Crusades, the rise of nationalities, mediaeval institutions, and the Renaissance will be studied. The needs of the teacher as well as those of the general student are met in this course. Mj. ASSISTANT PROFESSOR KNOX.

7. Outline History of Modern Europe (1517-1815).—The principal topics treated are: the Reformation; the religious wars; the struggle for constitutional liberty in England; the ascendancy of France under Louis XIII and Louis XIV; the rise of Prussia; England's colonial supremacy; the era of the French Revolution and Napoleon. While the primary object is to give the student a knowledge of the political history of the period, due attention is paid to the economic, social, and religious movements that are essential to this object. This course will be helpful to teachers as well as to students of history. Mj. ASSISTANT PROFESSOR KNOX.

8. Europe from 1250 to 1500.—A survey study of the period of the Renaissance in Europe. In addition to a general understanding of important events, emphasis is laid upon exploration and discovery; the growth of nationality; the expansion of the Ottoman empire; commercial and industrial conditions; and the prominent intellectual and religious movements. Prerequisite: course 6 or its equivalent. Mj. ASSISTANT PROFESSOR KNOX.

9. Europe from 1517 to 1648.—This course is a study of the causes, events, and results of the Reformation in Europe. Much attention will be given to the political, social, and economic phases of the movement, the inseparable religious questions being discussed only so far as is necessary to an understanding of the period. Mj. ASSISTANT PROFESSOR KNOX.

10. The French Revolution and the Era of Napoleon.—The ground will be cleared for the history of the period by a careful study of the institutions of the Old Régime, in which the remoter causes of the Revolution will be discovered. A consideration of the more immediate causes and the attempts at reform will introduce the Estates General. The Revolution ran through three periods which answer to the National Assembly, the Legislative Assembly, and the Convention, to the extreme of a Red Democracy. Three more periods, corresponding to the Directory, the Consulate, and the Empire, see France return to a military absolutism under Napoleon. The greatest emphasis will be laid upon the institutional changes induced by the French Revolution, and attempt will be made to show the constructive work of the Revolution and of Napoleon. Its importance as one of the greatest generic events of the world's history will give the course a significance wider than France alone. It is desirable that the student be familiar with the outlines of modern European history. Mj. PROFESSOR THOMPSON AND MR. TSCHAN.

11. The Church and the Roman Empire (from the beginning to Justinian, 565).—In this course, and the one following it, an effort is made to study the development of the church both as being affected by its environment and as effecting the society in which it developed. The main emphasis, however, is placed upon the latter aspect of the subject, namely, the social significance of the church. The whole history of the Roman Empire is looked at as a phase in the movement of civilization from the east, westward. As an especially important element in this movement, the religious practices of the orientals are sketched from the evolutionary point of view. On this background is traced the beginning of the Christian communities. In outlining their continuous development, the attempt is made to show how they, in conjunction with other influences, notably those of the oriental religions, bring about certain transformations in Roman society. Attention is accordingly given to their relation (1) to the evolution of religion and morality; (2) to the subordination of philosophy to

religion; (3) to the substitution of the ascetic for the non-Christian ideal; (4) to the development of new ideals and subjects in education and to the transformation in the spirit and uses of art and architecture; (5) to the development of new social centers; (6) to the creation of a system for the care of the poor and the sick; (7) to the creation of a new means of shaping public opinion and exerting political influence. Mj. ASSISTANT PROFESSOR WALKER.

12. The Church and the Barbarians (from Gregory the Great to the Twelfth Century, 590-1100).—There is continued in this course the point of view assumed in the preceding one, namely, the relation of the church to the evolution of society. In accordance with this point of view, attention is directed to the following subjects: (1) The clergy as leaders of the old society as over against the Invaders; (2) the church and its reactions on the new religious conceptions and practices introduced by the Invaders; (3) the church as the moral trainer of society through the example principally of the monks, through preaching, through the confessional, through chivalry, and through marriage; (4) Monasticism as an economic and intellectual agent; (5) the church as the transmitter of Roman notions of administration and law; (6) as a mold of public opinion and a political force. The contemporaneous barbarization and feudalization of the church is also emphasized. Mj. ASSISTANT PROFESSOR WALKER.

AMERICAN HISTORY

GROUP I

NOTE.—The courses in American history fall into two groups: an outline course (13), and a series of four courses (14-17) covering, in a more thorough manner, the entire field. The student is advised to take the courses of the second group in sequence. In this way he will greatly economize the expenditure for books, since successive courses require the same textbooks to some extent. Graduate credit may be obtained in courses 14, 15, 16, and 17, by properly prepared students who have access to sources and original documents and who do additional advanced work under the direction of the instructor. In such cases the tuition fee for each Minor will be \$16 instead of \$8.

13. Outline History of the United States from Colonization to the Present Time.—Colonial history will be considered very briefly, while the period from 1763 will be emphasized and an acquaintance made with some of the important documents and sources of American history. It will be especially helpful to high-school teachers. Mj. ASSISTANT PROFESSOR KNOX.

GROUP II

14. Colonial Period (1492-1763).—

A. *Discovery and Colonization.*—The course deals with the American aborigines, the causes and motives leading to the discovery of America, the voyages and journeys of the discoverers, the claims arising from these explorations, the growth of geographic knowledge, and the founding of the English, French, Spanish, Dutch, and Swedish Colonies. M.

B. *Colonial Institutions and History.*—This course begins with a study of the political institutions of the American colonies. English colonies receive most attention, but those of other nations are also considered. The chief events of colonial history are then considered, with especial reference to the relations between the English colonies and the mother-country. The course concludes with a survey of the struggle for supremacy in North America, ending with the final triumph of the English in the Seven Years' War. M. ASSISTANT PROFESSOR JERNEGAN.

15. The Formation of the Nation (1763-1789).—

A. *The American Revolution (1763-1783).*—The following topics show, substantially, the content of the course: the territorial, political, and economic condition of the English colonies in 1763; the new policy of the English government; the development of colonial opposition; the constitutional and philosophical arguments on both sides; the beginning of hostilities; the Declaration of Independence; the progress of the war; Congress as a governing body; the Loyalists; French and Spanish intervention; Washington's triumph; the preliminaries and terms of peace of 1783. M.

B. Confederation and the Constitution (1783-1789).—The following topics are treated: the results of the Revolutionary War; the government under the Articles of Confederation; the organization of the western territory; interstate controversies; problems of diplomacy and foreign trade; violations of the treaty of peace; paper money; the Shays Rebellion; the Constitutional Convention; analysis of the Constitution; the process of ratification. M. ASSISTANT PROFESSOR JERNEGAN.

16. The Growth of the Nation (1789-1861).—

A. Foreign Politics and National Expansion (1789-1829).—Beginning with the organization of the national government, the course deals with the policy of the Federalist party in foreign and domestic politics and the rise of the Democratic opposition. The broad and strict constructions of the Constitution are carefully studied. Further topics are the fall of the Federalists; Jefferson's policy; annexation of Louisiana; experiments in neutrality; and the causes, progress, and results of the War of 1812. The course concludes with a survey of the political and economic reorganization after the war, including western expansion, the Missouri Compromise, the Monroe Doctrine, and the triumph of the Jacksonian democracy. M.

B. The Strife of Sections (1829-1861).—This course opens with a study of Jackson's administration—the civil service, tariff, nullification, bank, etc. Slavery then becomes the dominant issue. The chief topics are slavery as a system; the anti-slavery movement; Texas and the Mexican War; the Compromise of 1850; the Kansas-Nebraska question; the Dred Scott case; the rise and final triumph of the Republican Party; and the consequent secession of the southern states. M. ASSISTANT PROFESSOR JERNEGAN.

17. Consolidation and Expansion (1861-1904).¹—

A. Civil War and Reconstruction.—M.

B. Political and Economic Centralization.—*The Nation as a World-Power.*

M. ASSISTANT PROFESSOR JERNEGAN.

SCHOOL OF EDUCATION

18. History for Primary Grades.—This course is designed for teachers in primary grades and also for supervisors and principals. It aims (1) to show the principles upon which subject-matter should be selected for the children of the lower grades; (2) to assist the teacher in outlining a course of study; (3) to give practical help in methods of presenting subjects to children; (4) to show the relation which a course of study in history should bear to the social occupations of the school. The course treats of the following topics: primitive, industrial, and social life; local history; civics; constructive work; children's literature. Students who are teaching in primary grades may modify their work to make it of practical assistance in their own schools. The course covers the ground of course 2 in residence. Mj. ASSOCIATE PROFESSOR RICE.

19. Teachers' Course in American History.—This course is intended for teachers in the upper grades of the elementary schools. It gives a brief study of colonial history and of the Revolutionary war, and a fuller treatment of the period of westward expansion. The effects of geographical environment upon industries and of industries upon social life and government are emphasized. The course corresponds to course 3 in residence. Mj. ASSOCIATE PROFESSOR RICE.

VI. SOCIOLOGY AND ANTHROPOLOGY

SOCIOLOGY

1. Introduction to Sociology.—A study of the phenomena of social life; the basis of society in nature; the social person; social institutions; and social psychology, order, and progress. The course is designed to give an introduction to theoretical and practical sociology, and to systematize the reading, observation, and thinking of advanced students. Mj. ASSISTANT PROFESSOR MACLEAN.

¹ Not given during 1913-14.

2. Introduction to the Study of Society.—This course is designed to afford a synthetic view of social phenomena, and to furnish the student with a scientific method for the study and correct understanding of ordinary human association. Considerable attention will be paid to local studies as a means of amplifying the text. The aim is to have the course serve as an introduction to the special social sciences. Mj. ASSISTANT PROFESSOR MACLEAN.

3. Elements of Industrial History.—The aim of this course is to acquaint the student with the salient facts of American industrial history and to furnish a foundation for those who wish to do further work in economics or sociology. Selected industries will be studied in detail and their evolution discussed. A course for practical people as well as for students. Mj. ASSISTANT PROFESSOR MACLEAN.

4. Social Debtor Classes.—A course for practical social workers and supporters of social amelioration. The particular work in which the student is interested is taken as a starting-point and an attempt is made to discuss various forms of preventive and constructive social work from the standpoint of the relief visitor, city missionary, alienist, contributor, or lay student, as the case may be. Texts are chosen with a view to the reader's special needs, and illustrations are taken from his own state or community. The chief aim of the course is to give occasion for the reader to analyze, classify, and describe his own environment, and his own experience and observation. Prerequisite: Course 1 or its equivalent. Mj. ASSISTANT PROFESSOR MACLEAN.

5. Modern Immigration.—This course includes a study of the forces at work in movements of population from the old world to the new; history and statistical studies of immigration into the United States; nationalities involved; their distribution and industrial adjustment; problems presented; social efforts looking toward better assimilation; the status of the immigrant. A course for students, social workers, and all who are interested in this important social problem. Mj. ASSISTANT PROFESSOR MACLEAN.

6. Rural Life.—The aim of this course is to study rural social life in America, with its problem of isolation, and organized efforts for improvement. The course is designed to meet the needs of Young Men's and Young Women's Christian Association secretaries, country ministers, teachers, social workers, and others who are dealing with the problems of rural communities. The country will be studied in its physical, economic, and psychological aspects with a view to a thorough understanding of rural life, a discovery of needs and existing efforts to meet these, and suggestions for further improvement. Mj. ASSISTANT PROFESSOR MACLEAN.

7. Problems of Industry.—A course designed for the discussion of some of the vital questions in American industrial life, including (1) the labor of women and children; (2) methods of settling disputes; (3) insurance against accident; (4) the improvement of physical conditions in factories; (5) efforts to render workers more efficient. The work will be conducted by means of textbooks, reports, and special studies. Mj. ASSISTANT PROFESSOR MACLEAN.

ANTHROPOLOGY

8. General Anthropology.—An introductory course treating of the origin, antiquity, distribution, and early occupations of man and of the sources of language, religion, the arts, and social relations. The student must consult the instructor before registering for this course. Mj. ASSOCIATE PROFESSOR STARR.

VIA. HOUSEHOLD ADMINISTRATION

1. House Sanitation.—This course offers a comprehensive and practical study, based on scientific principles, of the sanitary aspects of the home. Among the topics treated are the choice of building site, construction and care of cellar, drainage, plumbing, heating, lighting, furnishing, and cleaning. Mj. PROFESSOR TALBOT.

2. Foods and Dietaries.—A course in practical dietetics covering the study of the composition of foods, scientific principles of preparation, and their combination in dietaries from an economic and physiological standpoint. Mj. PROFESSOR TALBOT.

3. Administration of the House.—This course will consider the order and administration of the house with a view to the proper appointment of the income and the maintenance of suitable standards. Changes in household industries in the light of modern economic and social conditions, and sanitation will be studied. The domestic service problem will be investigated. Mj. PROFESSOR TALBOT.

SCHOOL OF EDUCATION

4. Design, Decoration, and Furnishing of the House.—This course treats of the general principles which govern the decorating and furnishing of an artistic home, and is intended: (1) for home-makers, as an aid (a) in the selection of paints and stains for house exteriors, wall and floor coverings, draperies and upholstery, furniture, hardware, table appointments, etc., (b) in the arrangement of the home with due regard to color harmonies and space relations, and (c) in the designing and executing of such pieces of handcraft as stenciled or embroidered hangings and covers, lamp and candle shades, screens, pillows, etc.; (2) for teachers, as an enrichment of the courses in art and domestic science in primary and secondary schools, offering in the home a nucleus for a course embracing problems in design and handwork. The following topics are treated: (1) domestic architecture, selection from architects' drawings, exteriors and plans, making original plans; (2) color and color harmonies, applied to the exterior and interior of a house; (3) proportion and space relations with illustrative problems in designs; (4) study in detail of walls, floors, stairs, doors, windows, furniture, hardware, and textiles, with investigation, under direction, of articles to be found in the stores. Mj. MISS RAYMOND.

5. The Application of Heat to Food Materials.—This course includes (1) a study of the food principles; (2) the methods by which heat is applied to food and the effect of different temperatures on the food principles, cooking apparatus and its construction, household fuels and their economic value; (3) combinations of foods and the development by experiment of the principles underlying proportions and methods; (4) some of the simpler processes of chemistry and bacteriology as applied to food preparation; (5) typical manufacturing processes, and some phases of the history and geography of food products; (6) laboratory directions and experiments; (7) the carrying-out of actual cooking processes as a result of the application of these experiments. The course is planned to meet the needs (1) of those who are beginning their preparation for teaching home economics; (2) of teachers who desire to review their work in the light of the recent development of the subject; (3) of social workers in institutions whose activity is largely expressed in household administration; (4) of progressive housekeepers. The two Majors correspond to residence courses 3 and 4 and should be taken in sequence.

A. Furnishes an introduction to the study of food, with its place in home economics and includes a study of: (1) formulation of weights and measures; (2) water—its use in the body and its use in cooking processes, boiling and freezing points and the factors that affect them, solution, evaporation, the preparation of tea, coffee, and frozen mixtures; (3) different methods of conveying heat—coal and gas ranges, the fireless cooker; (4) a study of fruit—its composition, introducing the subjects of mineral salts, organic acids, and sugar, bacteria, yeasts and molds in connection with the canning and preserving of fruit, and jelly-making; (5) starch and the study of vegetables, with their preparation in various ways; (6) classification of carbohydrates; (7) fats—their decomposition products, use in cooking, the comparative value of various kinds as food; (8) the introduction of protein through the study of milk, separation of food principles, butter-making, cheese cookery, pasteurization and sterilization; (9) eggs, giving different types of protein. Mj.

B. Continues A and includes a study of: (1) proteins illustrated by meat cooking, with especial reference to the effect of different temperatures, gelatin and its use, soups; (2) combinations of starch and proteins; (3) salads; (4) cereals; (5) flour—its manufacture and analysis; (6) doughs and batters, and methods of lightening them; (7) the chemistry of baking powder; (8) yeast in relation to bread-making; (9) the making of menus and preparation of meals. Mj. MISS SWAIN.

6. The Chemistry of Foods.—A study of (1) the properties and characteristic reactions of proteids, carbohydrates, and fats, with qualitative tests for their identification; (2) separation of the food principles; (3) study of milk, water, and flour, with some of the simpler methods employed in their analysis; (4) experiments in fermentation; (5) food adulterations and household methods for their detection; (6) laboratory work. Prerequisite: one year of chemistry and course 2 or 5, above, or an equivalent. Mj. MISS SWAIN.

7. The Teaching of Home Economics.—A study of the purpose of this work in the schools; its value as training; its relation to the social life of the school and of the home; the correlation with other studies in the curriculum; the relation of the handwork involved to the science that underlies it and that grows out of it; the selection of subject-matter and the planning of courses, and their adaptation to different conditions; the planning of school laboratories, and the choosing of equipment. Prerequisite: one year of technical training in the subject. Mj. MISS SWAIN.

NOTE.—Related courses will be found under Departmental Nos. II, III, VI, XVII, XX, XXII, XXIV, XXVIII, and CLV.

VII. COMPARATIVE RELIGION

(For courses see p. 65)

VIII. THE SEMITIC LANGUAGES AND LITERATURES

(SEE XLI. OLD TESTAMENT LITERATURE AND INTERPRETATION)

IX. BIBLICAL AND PATRISTIC GREEK

(SEE XLII. NEW TESTAMENT LITERATURE AND INTERPRETATION)

X. SANSKRIT AND INDO-EUROPEAN COMPARATIVE PHILOLOGY

1. Elementary Sanskrit.—The aim of the course is to give the student a thorough grounding in the essentials of Sanskrit grammar, the principles of which are illustrated by constant translation from Sanskrit into English and from English into Sanskrit. It is designed as an introduction to the selections from classical Sanskrit in Lanman's *Reader*, which the student should then be prepared to read rapidly by himself. No attempt is made to teach comparative philology in this course. Mj. DR. CLARK.

2. The Bhagavad Gītā.—The Sanskrit text of this most famous of all Hindu religious books will be read and some attention will be paid to the content and the development of the doctrines contained in it. Mj. DR. CLARK.

Hindu Philosophy.—(Cf. description under Philosophy 9). Mj. DR. CLARK.

The Religions of India.—(Cf. description under Comparative Religion 4). Mj. DR. CLARK.

3. Elementary Russian.

A. After a general study of the declensions and conjugations, texts supplied with extensive notes will be taken up and mastered. Mj.

B. Continues the study of texts with review of inflectional forms. The vocabulary will be enlarged by the study of roots and suffixes. Elementary composition. Extensive syntax study. Mj. MR. HARPER.

NOTE.—These courses are eminently practical. Provisional credit is given when A is passed. It will be made permanent when B is passed.

4. Elementary Chinese.—

A. This course gives the student (1) the principal rules for pronouncing Chinese words; (2) a vocabulary of about 250 of the most common words; (3) practice in constructing short sentences in Chinese; (4) progressive exercises involving the elements of the grammar—verbs, nouns, and adjectives; (5) drill in translating sentences from English into Chinese and vice versa. A Chinese elementary reader will be used throughout the course. Mj.

B. Advancing on A (1) the vocabulary will be extended to include 500 words; (2) the more difficult points of the grammar will be taken up; (3) the development of verbs will receive special consideration; (4) much longer exercises in translating Chinese into English and vice versa will constitute the principal part of the course. A more advanced Chinese reader will be used. Mj. MR. WANG.

XI. THE GREEK LANGUAGE AND LITERATURE

ACADEMY

1. **Elementary Greek.**—In two majors is offered the equivalent of the first year of high-school work in Greek. The writing of Greek is required from the beginning.

A. White's *First Greek Book*, Lessons 1–60. These lessons include the commonest noun and adjective declensions, the Omega system of conjugation, some fundamentals of syntax, connected reading lessons epitomizing the story of the *Anabasis*, and a vocabulary of 600 common Greek words. Mj.

B. (1) White's *First Greek Book*, Lessons 61–80, including a study of the Mi system of conjugation, reading lessons, continuing the *Anabasis* story, and an additional vocabulary of 250 words; (2) the *Anabasis* of Xenophon, Book i, chaps. 1–3. These lessons call for constant review of the material studied in the *First Greek Book*. Mj. ASSISTANT PROFESSOR BRONSON.

2. **Xenophon: *Anabasis*.**—

A. From Book i, chap. 4, through Book ii, chap. 4, about fifty pages. Exercises in writing Greek based upon the text. Mj.

B. From Book ii, chap. 5, through Book iv, about ninety pages. Greek composition, including a topical treatment of syntax. Occasional tests in translation at sight. Mj. ASSISTANT PROFESSOR BRONSON.

3. **Homer: *Iliad*.**—

A. Books i–iii.—An introductory study of the *Iliad* in which the literary and linguistic aspects of the poem and the Greek life of the Homeric period are considered. Particular attention is paid to prosody and the peculiarities of epic dialect and syntax. Mj.

B. Books vi–xxii (*passim*).—The selections read in this course are chosen with a view to giving the student an idea of the plot of the *Iliad* as a whole. They include parts of books vi, ix, xv, xvi, xix, and xxii. The grammar, dialect, and prosody are reviewed, and the text is made the basis of a general literary and elementary critical study of the *Iliad*. Mj. MR. NELSON.

COLLEGE

4. **Plato: *Apology* and *Crito*.**—In connection with these writings Xenophon's *Memorabilia* will be read to furnish a basis for the study of the life and philosophy of Socrates as interpreted by Plato and Xenophon. The course includes a brief outline of Plato's life and works, and a discussion of the syntax and idioms of Plato. Mj. MR. NELSON.

5. **Homer: *Odyssey*,** Books v–xii.—This course aims chiefly at enabling the student to translate Homer fluently and with appreciation. It also includes a review of epic dialect and syntax, and a study of Homeric life and antiquities. Mj. MR. NELSON.

6. **Herodotus: *Historiae*** (Books vii–viii).—The reading covers the invasion of Xerxes including the battle of Salamis. The history of this period and the language and style of the author are studied. Mj. MR. NELSON.

7. Advanced Prose Composition.—The course offers to teachers and others an opportunity to perfect themselves in Greek syntax, sentence structure, and the use of particles. The exercises are graded from simple narrative passages in the style of Xenophon to more difficult selections in the style of Plato and Demosthenes. Mj. PROFESSOR BONNER.

8. Demosthenes: *Philippics*, and Lysias: *Selected Orations*.—A general introduction to Attic oratory. The literary characteristics of the authors studied and the public life and the history of their times are considered. Mj. MR. NELSON.

9. Demosthenes: *De Corona*.—This oration, admitted to be the greatest one of ancient times, will be studied chiefly from the literary point of view. Mj. MR. NELSON.

10. Introduction to Greek Tragedy.—Sophocles' *Antigone* and Euripides' *Medea* are read. Attention is given to the various problems connected with these plays, to the character delineation, and the method of presentation. Col-lateral reading is assigned on the history of Greek tragedy and theater. Mj. MR. NELSON.

11. Aristophanes.—An introduction to the study of Greek comedy; intensive study of two plays, probably the *Clouds* and *Birds*; the language and technique of Aristophanes; the external environment and inner spirit of Athenian comedy. Mj. PROFESSOR PRESCOTT.

12. History of Greek Literature.—The course is designed for two classes of students, those who have not studied Greek but desire an intimate knowledge of Greek literature, and those students of Greek who wish a general survey of Greek literature and an opportunity to study the Greek masterpieces more fully from the purely literary point of view. The course includes: (1) a systematic survey of the history of Greek literature down to the Alexandrian period, treating of (a) the origin and development of the various branches of literature, (b) the more important Greek authors, (c) Greek institutions, art, and religion in so far as a knowledge of these is necessary for the understanding of Greek literature; (2) analytical and comparative study of the masterpieces of Greek literature in selected translations. Mj. PROFESSOR MISENER.

Members of the Greek department will endeavor to arrange informal courses for students who are prepared to do work of an advanced nature whenever practicable. Professor Shorey will occasionally guide by correspondence the work of advanced students who propose to attend the University.

NOTE.—Related courses will be found under Departmental Nos. I and XVI.

XII. THE LATIN LANGUAGE AND LITERATURE

ACADEMY

1. Elementary Latin.—In two majors is offered the equivalent of the first year of high-school work in Latin. Starting with the rudiments, the aim is to acquaint the student with all the regular forms and common constructions found in Caesar's *De Bello Gallico*, and to give him a large vocabulary.

A. Includes all the declensions of nouns and adjectives, all the conjugations of regular verbs, and the simplest rules of syntax. Mj.

B. Provides (1) a review of verb forms, the conjugation of the irregular verbs and the more difficult constructions in syntax, and (2) the study of Caesar: *De Bello Gallico*, Book i, chaps. 1-30, covering the Helvetian War. Mj. MISS PELLETT.

2. Caesar: *De Bello Gallico*.—

A. *Book ii*.—This course is intended for students who have completed course 1, but who have had no other practice in translation. Special attention is given to a review of forms and syntax. Exercises in prose composition based upon the text form a part of each lesson. Mj.

B. *Books iii-iv.*—Continues the above. The more difficult Caesarian constructions are carefully studied, and further practice is given in prose composition. Mj.

C. *Book i.*—The latter part of Book i, the war with Ariovistus, is read. While forms, syntax, and prose composition continue to be studied, indirect discourse receives special attention. Students are required to change all the passages in indirect discourse to the direct discourse. M. MISS PELLETT.

3. *Viri Romae.*—A series of twenty lessons based upon the interesting stories of early Rome; open to those who have completed course 1 or its equivalent, and who desire to increase their vocabulary and acquire facility in reading Latin. M. MISS PELLETT.

4. *Nepos.*—Like course 3 in aim and prerequisites. M. MISS PELLETT.

5. *Cicero: Orationes.*—

A. *In Catilinam, i-iv.*—This course includes translation, a review of forms and of more difficult constructions, exercises in Latin composition based upon the portion of text assigned in each lesson, and the history of the period. Mj.

B. *Pro Lege Manilia* and *Pro Archia.*—Continues A and includes a careful study of the literary style of Cicero, of all historical references, and exercises in prose composition based upon the portion of text assigned in each lesson. Especial attention is given to translating into good English. Mj. MISS PELLETT.

6. *Vergil: Aeneid.*—

A. *Books i-ii.*—The work includes a study of prosody, word-derivation, constructions peculiar to the poets, and the more common rhetorical figures. Mj.

B. *Books iii-vi.*—Continues A and lays emphasis upon elegance of translation, the mythology, and the literary style of Vergil. Mj. MISS PELLETT.

7. *Selections from Roman Writers.*—This course will be of advantage to those who wish to become acquainted with the style of different Roman writers. Mj. MISS PELLETT.

8. *Prose Composition Based on Caesar.*—This course affords (1) practice in writing Latin in connected passages based on Caesar's *De Bello Gallico*, (2) a thorough review of grammatical forms and constructions found in the *De Bello Gallico*; (3) a careful study of synonyms. As the course is informal, special attention can be given to any subject in which the student is deficient. M. MISS PELLETT.

9. *Prose Composition Based on Cicero.*—Like course 8, using the orations as a basis. M. MISS PELLETT.

NOTE.—The courses 1-9 are intended for three classes of students: (1) those who are preparing to enter college; (2) those who wish to study Latin for their own benefit; (3) teachers of Latin who from the topics and questions in each lesson can receive suggestions for their own work, e.g., the points to be emphasized at different stages in Caesar, Cicero, and Vergil.

COLLEGE

10. *Cicero: De Senectute.*—The entire essay is read with studies in syntax and exercises in prose composition based upon the text of each lesson. M. MISS PELLETT.

11. *Terence: Phormio.*—This play, as a specimen of the highest development of Roman comedy, is carefully studied with regard to composition, presentation, etc. Attention is also given to vocabulary, metrical treatment, and ante-classical forms and constructions. M. MRS. BEESON.

12. *Livy.*—The twenty-first book and a large part of the twenty-second, describing Hannibal's expedition against Rome up to Cannae, are read, with accompanying studies in literary style and syntax and exercises in prose composition, based in each case upon the portion of text assigned in each lesson. Mj. MRS. BEESON.

13. *Horace: Odes, Books i-iii.*—This course includes: commentary upon the details of each ode, syntactical, historical, illustrative, etc.; translations, analysis of thought, and general interpretation; and a study of the metrical form.

A list of general topics, material for the study of which is to be found in the odes, is presented at the outset, and the student is expected to select one of these for his especial study. Mj. PROFESSOR MILLER.

14. The Latin Subjunctive.—The course presents a systematic treatment of the subjunctive according to the latest scientific theories. All the forms found in preparatory Caesar or Cicero are classified. The student may choose to classify the forms either in Caesar or in Cicero, or in such a combination of the two as shall be equivalent in amount to either. The course is intended primarily for teachers. Mj. MISS PELLETT.

15. Advanced Prose Composition.—The course offers to teachers and others an opportunity to perfect themselves in Latin syntax, sentence and paragraph structure. The exercises are graded from simple passages in the style of Caesar to more difficult extracts in the style of Cicero. Prerequisite: three majors of college Latin. Mj. PROFESSOR BONNER.

16. Cicero: *De Amicitia*.—Primarily a translation course, with questions based on subjects suggested by the text. The lessons will afford drill in syntax and some practice in the writing of Latin. M. MRS. BEESON.

17. Plautus.—

A. *Captivi*.—This course will deal especially with the linguistic side of Plautus. The vocabulary and scansion will be studied and ante-classical forms and constructions noted. Good idiomatic translation will be required. M.

B. *Trinummus*.—Here the literary side will be emphasized. The course will deal especially with Plautus' style, plot, and delineation of character. As in the first minor, much attention will be paid to translation. M. MRS. BEESON.

18. Tacitus: *Agricola* and *Germania*.—In the reading of these works both their historical importance and their literary merits are brought out. The course is an introduction to the language and style of Tacitus. Mj. ASSOCIATE PROFESSOR BEESON.

19. Cicero: *Epistulae*.—A study of the character and career of Cicero from the evidence afforded by the material contained in one hundred selected letters and from supplementary historical and biographical sources. The course also deals with the peculiarities of epistolary Latin and with the general subject of letter-writing in ancient Rome. Mj. MRS. BEESON.

20. Ovid.—Selections from *Epistulae*, *Amores*, *Fasti*, *Metamorphoses*, and *Tristia*. The object of the course is to make a general study of the life and works of Ovid and of his place in Roman literature. (Informal.) Mj. PROFESSOR MILLER.

21. Seneca: *Tragedies*.—The tragedies of Seneca will be studied for their style, as characteristic of the period, and their content; they will be compared with the corresponding Greek dramas, and their influence upon English drama will be touched upon. Three plays will be read from the Latin text, and the remainder from an English translation. (Informal.) Mj. PROFESSOR MILLER.

22. Horace: *Satires* and *Epistles*.—Selected satires and epistles are carefully read and analyzed, with particular regard to argument, character portrayal, style, and their place in literature. (Informal.) Mj. PROFESSOR MILLER.

23. Horace and Persius: *Satires*.—A brief review of the predecessors of Horace in the field of satire, a reading of selected satires, of Horace and Persius, with a study of the characteristic features of each. (Informal.) Mj. PROFESSOR MILLER.

24. Juvenal.—The object will be to present, through the study of selected satires, a picture of life and manners at Rome under the Early Empire. (Informal.) Mj. ASSOCIATE PROFESSOR BEESON.

25. Topical Studies in the Works of Vergil.—This course presupposes a considerable familiarity with Vergil on the part of the student. It is not a reading course, but the *Eclogues*, *Georgics*, and particularly the *Aeneid* will be the field of investigation under various topics relating to different objects of study in the works of this author. A list of topics will be presented to the student, of which

the following are typical: "Vergil's Verse and Its Metrical Peculiarities"; "Poetic Constructions in Vergil"; "Vergil as a Poet of Nature"; "The Aeneid as a National Epic"; "Vergil's Use of Metaphor and Simile." The student will be expected to select a certain number of these topics and, with them in mind, to go through the works of Vergil under direction of the instructor, collect all material bearing upon them, and present his results in finished form. The instructor will at all times furnish such aid as may be necessary and will criticize the results. (Informal.) Mj. PROFESSOR MILLER.

26. Roman Conception of the Immortality of the Soul.—This course is the study of a topic, and is based for material upon a variety of authors: Cicero's *Tusculan Disputations*, i, *De Senectute*, *De Amicitia*, *Epistulae*; Vergil's *Aeneid*, Book vi; Horace's selected odes; Ovid, Seneca, Persius, etc. (Informal.) Mj. PROFESSOR MILLER.

27. Training Course for Teachers.—The object of the course is to give the teacher working alone and often at a distance from authorities, an opportunity to appeal for assistance and advice along any lines connected with his teaching of Latin. Naturally there are some subjects which nearly all teachers find it profitable to take up in a somewhat formal way, e.g., pronunciation, translation, metrical reading, composition, etc. In addition to these, each teacher will have his own problems to discuss. The course is designed to meet these general and individual needs. (Informal.) Mj. PROFESSOR MILLER.

Members of the Latin Department will endeavor to arrange informal courses for students who are able to do work of an advanced nature, whenever practicable.

XIII. ROMANCE LANGUAGES AND LITERATURES

1. Elementary French.—In two majors is offered the equivalent of the first year of high-school work in French. The writing of French is required from the beginning.

A. The aim is to acquaint the student with the essentials of French grammar, to enable him to turn short English sentences into idiomatic French and vice versa, and to acquire some ability in translation. Mj.

B. This course (1) reviews and extends considerably the knowledge of grammatical principles and the irregular verbs acquired in the preceding major; (2) fixes it by means of exercises in composition; and (3) through drill in translation develops in the student ability to read easy French at sight. Mj. ASSISTANT PROFESSOR NEFF.

2. Intermediate French.—The work of this course follows immediately upon that of "Elementary French—B." The books read deal with life in France and inform the student regarding the national traits and conditions. The exercises in composition take the form sometimes of a résumé on the text read, sometimes of reproduction in French of exercises based on the text. The grammar is studied inductively. Mj. ASSISTANT PROFESSOR NEFF.

3. Advanced French.—Idioms, synonyms, diction; (a) systematic review of elementary French grammar; (b) syntax; (c) reading: Mérimée, *La Chronique de Charles IX*; (d) composition based on the reading. Prerequisite: course 2. Mj. ASSISTANT PROFESSOR DAVID.

4. French Reading.—(A. *Modern Novels*, or B. *Modern Dramas*.)

A. *Modern Novels*.—Anatole France, *Le Crime de Sylvestre Bonnard*; Honoré de Balzac, *Eugénie Grandet*; George Sand, *La Mare au Diable*. Criticism of the novel. Prerequisite: course 3. Mj.

B. *Modern Dramas*.—V. Hugo, *Hernani*; E. Augier, *Le Gendre de M. Poirier*; A. Dumas fils, *La Question d'Argent*; E. Rostand, *Cyrano de Bergerac*. Criticism of the drama. Prerequisite: course 3. Mj. ASSISTANT PROFESSOR DAVID.

5. Advanced French Reading.—(A. *Modern Dramas and Lyrics*, or B. *Modern Novels and Lyrics*.)

A. *Modern Dramas and Lyrics*.—The work will be based on the dramas of 4 B and selections from the lyric poets, especially Chénier, Lamartine, Musset, Victor Hugo; versification; criticism of lyric poetry. Prerequisite: course 4 A. Mj.

B. *Modern Novels and Lyrics*.—The work will be based on the novels of 4 A and selections from the lyric poets, especially Chénier, Lamartine, Musset, Victor Hugo; versification; criticism of lyric poetry. Prerequisite: course 4 B. Mj. ASSISTANT PROFESSOR DAVID.

NOTE.—If A has been chosen in course 4, A of course 5 must be chosen; if B of course 4, B of course 5 must be chosen.

6. Cours de Style.—Principes généraux, exercices pratiques de composition française. Prerequisite: six majors of French or the equivalent. Mj. ASSISTANT PROFESSOR DAVID.

7. Introduction to the Study of French Literature.—A general survey of French literary activity from 1600 to 1850. Prerequisite: six majors of French or the equivalent. Mj. ASSISTANT PROFESSOR DAVID.

8. Molière and the French Comedy in the Seventeenth and Eighteenth Centuries.—

A. *Molière and his Contemporaries*. (17th c.) Mj.

B. *Molière's Successors*. (18th c.) Mj.

These two majors include a study of the lives of the principal authors, their influence on the theater, with intensive study of the following plays: (a) Corneille *Le Menteur*; Molière, *Les Précieuses Ridicules*, *Tartuffe*, *Le Misanthrope*, *L'Avare*, *La Critique de l'Ecole des Femmes*, *Le Bourgeois Gentilhomme*, *Les Fourberies de Scapin*, *Don Juan*, *Les Femmes Savantes*, *Le Malade Imaginaire*. (b) Regnard, *Le Légataire Universel*, *Le Joueur*, *Les Folies Amoureuses*; Lesage, *Turcaret*; Marivaux, *Le Jeu de l'Amour et du Hasard*, *Le Legs*, *L'Épreuve*, *Les Fausses Confidences*; Destouches, *Le Philosophe Marié*; Gresset, *Le Méchant*; Beaumarchais, *Le Barbier de Séville*, *Le Mariage de Figaro*. This is intended to familiarize the student with the masterpieces of classical comedy. Constant comparison will be made between the language of these writers and that of today, and the most unusual constructions will receive consideration. The work is conducted wholly in French. Prerequisite: course 7 or its equivalent. ASSISTANT PROFESSOR DAVID.

9. Molière.—A critical study of all the plays of the great writer. All the reports must be written in French. This secures to the student a thorough course in advanced French composition as well as a comprehensive knowledge of Molière's work. Prerequisite: 9 majors of French. Mj. ASSISTANT PROFESSOR DAVID.

10. Old French (Elementary Course).—The importance of some historical knowledge of French as a part of the teacher's equipment is now generally recognized. Old French is also an indispensable language for research in the modern literatures. This course corresponds to course 46 in residence and may be taken to advantage by students looking forward to resident graduate work. A good knowledge of modern French is necessary, and also some knowledge of German and Latin. Texts: *La Chanson de Roland*; *Aucassin et Nicolette*; *Erec et Enide*; *La Representation d'Adam*. For reference: Nyrop, *Grammaire historique de la Langue française*. Vols. I-V. Mj. PROFESSOR JENKINS.

11. Elementary Italian.—This course is devoted chiefly to the study of Italian grammar. It includes practice in composition and in translation. The lessons are based on Grandgent's *Italian Grammar*, Wilkins' *Notes on Italian Grammar*, and Wilkins' and Altrocchi's *Italian Short Stories*. Mj. ASSOCIATE PROFESSOR WILKINS.

12. Intermediate Italian.—The main object of this course is to enable the student to understand written Italian thoroughly and readily. The work is chiefly in translation: Goldoni's *La locandiera* and part of Manzoni's *I promessi*

sposi are read as carefully as possible, and one or two other books are assigned for more rapid reading. The course includes also some practice in composition. Prerequisite: course 11 or its equivalent. Mj. ASSOCIATE PROFESSOR WILKINS.

13. Elementary Spanish.—This course is designed to enable the student (1) to attain a clear conception of the fundamental principles of Spanish grammar and syntax; (2) to read at sight easy Spanish prose; (3) to translate simple English prose into idiomatic Spanish. The lessons are based on Hills and Ford's *Spanish Grammar* and call for the writing of exercises and the translation of about 100 pages of easy Spanish prose. Mj. MISS ENKE.

14. Intermediate Spanish.—This course consists of (1) a more detailed study of the principles of Spanish grammar, as presented in Ramsey's *Textbook of Modern Spanish*; (2) the writing of sentences illustrating these principles; (3) the careful reading of about 350 pages of simple Spanish prose, including Padre Isla's version of *Gil Blas*, *Marianela* by Galdós, and *Zaragüeta* by Carrión-Aza, special attention being directed to points of syntax, idiomatic expressions, and synonyms; and (4) exercises in prose composition based on the reading assignments. Prerequisite: course 13 or its equivalent. Mj. MISS ENKE.

15. Spanish Prose Composition.—This course is designed to give the student a practical command of Spanish as a medium of expression. It may be varied to adapt it to the needs of the student, now tending more to commercial forms of composition, now to those forms used in literature or by the traveler. Prerequisite: course 13 or its equivalent. Mj. MISS ENKE.

16. Modern Spanish Novels and Dramas.—This course is intended to fit students for the appreciative reading of the best modern Spanish literature. It includes the careful reading of about 450 pages of fairly difficult modern Spanish prose and verse, including *La Familia de Alvarado* by Fernán Caballero, *José* by Palacio Valdés, and *Guzmán el Bueno* by Gil y Zárate, special attention being directed to (1) the more difficult points of syntax; (2) translation into Spanish of selections based on the reading; and (3) abstracts of the reading assignments to be written in Spanish. Prerequisite: course 14 or its equivalent. Mj. MISS ENKE.

17. Don Quixote.—This is mainly an interpretative and critical reading course, embracing the first fourteen chapters of the first part and the first ten chapters of the second part of "Don Quixote." The life of Cervantes and the literary movement of his time will be noticed. In the reading, the peculiarities of syntax, style, and diction, as compared with later Spanish, will be studied. A bibliography of the more important works will be given, enabling the student who may wish to make a more extensive study of the author to do so. Prerequisite: course 16 or its equivalent. Mj. MISS ENKE.

XIV. GERMANIC LANGUAGES AND LITERATURES

1. Elementary German.—In two majors is offered the equivalent of the first year of high-school work in German. The writing of German is required from the beginning.

A. This course aims to ground the student in the essentials of German grammar through the reading of easy idiomatic German and exercises in which special attention is given to the construction of the verb, noun, and adjective. Mj.

B. Continues and extends A to include the passive voice and the subjunctive, and calls for extensive reading of easy prose. Mj. ASSISTANT PROFESSOR VON NOË.

2. Review of First-Year German.—The course provides a thorough review of as much of the elementary grammar and syntax of the language as is usually presented in the first year of standard high-school work. It will appeal especially to students who desire to renew their acquaintance with the fundamentals preparatory to further study of German and to those who have acquired their

knowledge of the tongue by some natural method. This course is interpolated in the regular sequence and does not command credit: the charge for it is \$16 regardless of combination. DR. GRONOW.

3. Intermediate German.—Devoted primarily to the reading of easy modern prose, and incidentally to a rapid review of elementary German grammar. The text read will always serve as the drill-ground for grammar work. Attention will be directed constantly to German idiom, and from time to time the student will be required to reproduce in German what he has read. In the composition work emphasis will be laid upon word order and sentence structure, the knowledge of which is essential to the proper appreciation of the language. Mj. DR. GRONOW.

4. Elementary Prose Composition.—Through the reproduction of ordinary narrative English into German and by means of original composition, the student is led to appreciate the difference between English and German idiom. The course also provides a comprehensive review of the grammar and syntax of the language. Mj. DR. GRONOW.

5. German Idioms and Synonyms.—The course comprises the study of (1) the method of word formation; (2) grammatical idioms; (3) synonyms, together with a thorough review of syntax. Attention is given to German-English cognates. Composition based upon selected modern German prose affords the basis of instruction. The course will be helpful to those who teach the language in secondary schools. Mj. DR. GRONOW.

6. Modern German Dramas.—This is primarily a reading course corresponding to course 6 in residence. It aims at the acquisition of the foundations of idiomatic German on the basis of the language of the dramas read. A short theme in German on the subject chosen from the reading is required with each lesson. Mj. DR. HEINZELMANN.

7. Scientific German.—The aim of the course is to enable the student to read German scientific prose. It has the same prerequisites as the preceding course. Short exercises in German composition connected with the text are required. This course is of special value to students of medicine. Mj. ASSISTANT PROFESSOR VON NOÉ.

8. Deutsche Aufsätze und Stilübungen.—An advanced course in composition corresponding to course 11 in residence. It includes a study of masterpieces of the best German stylists and the criticism and development of graded themes. The theme-subjects deal with German life, history, and literature. The aim of the course is to develop the student's ability in essay writing. Of special value to teachers. Mj. ASSISTANT PROFESSOR VON NOÉ.

9. Introduction to the Study of German Literature.—This course covers the ground of course 21 (A, B, and C) in residence, the first required course in German literature. Through a critical study of representative masterpieces and supplementary readings the student is introduced to the whole range of the literature and furnished some knowledge of the notable movements in it. The course is divided into two parts, either of which may be taken without the other. Prerequisite for either Major: course 8 or its equivalent.

A. This covers the field of German literature from the earliest times through Lessing. The selections from Old High German and Middle High German literature will be read in modern German translations. Mj.

B. This is a continuation of A and follows the same general plan. The works to be studied are chosen from Goethe, Schiller, Kleist, Heine, Eichendorff, Grillparzer, Hauptmann, and Sudermann. Mj. DR. HEINZELMANN.

10. The German Short Story.—The development of the short story (*Novelle*) into an art-form is one of the most interesting phenomena of nineteenth-century literature. The study of this evolution in Germany together with the various forms of the short story extant—the dramatic, the lyric, the historical, the social, etc.—is the object of this course. The student will read, under guidance, selected stories of Kleist, Tieck, Hoffmann, Riehl, Auerbach, Rosegger, Meyer, Keller,

Fontane, Liliencron, and others. Reports and essays (in German) will be required. This course may be taken by anyone who has a fair reading and writing knowledge of German. Mj. DR. VON KLENZE.

11. Heine's Prose and Poetry.—The reading of the larger part of the lyrics, the dramas, and the *Reisebilder* will be accompanied by a study of the author's life and the general tendencies of the Romantic movement, and by investigations into the poet's sources and literary technique. The course covers the ground of course 42 in residence. Prerequisite: course 9 B or its equivalent. Mj. DR. HEINZELMANN.

12. Goethe's Lyric Poetry as an Exponent of His Life.—No writer so minutely reflects his moral and intellectual growth in his lyric poetry as does Goethe. A chronological study of his lyrics affords, therefore, a subtle appreciation of his whole individuality. The student will pursue a study of the standard biographies of Goethe, together with his letters and autobiographical writings, while at the same time reading carefully the lyrics written during each period of his life. Essays in German are required throughout the course. Mj. DR. VON KLENZE.

13. Friedrich Hebbel: A Study of Modern German Drama.—Hebbel was one of the most powerful individualities of the nineteenth century and one of the most significant figures of German literature. His drama is the expression of new principles in dramatic literature, which many years later appeared in modified form in the social dramas of Ibsen. A comparison of conceptions of tragedy as found in the classic drama of the Greeks, in the Shakspearean drama, and in the work of modern playwrights will be made, in order to define as clearly as possible Hebbel's contribution. Mj. DR. VON KLENZE.

14. Deutscher Satzbau und Stil.—A sequent to "Deutsche Aufsätze und Stilübungen," corresponding to course 101 in residence. Several long themes of the type of term papers are required. Prerequisite: course 8 or its equivalent. Mj. ASSISTANT PROFESSOR VON NOÉ.

15. The Modern German Essay.—A study of the literary and historical essay of the nineteenth century combined with practical exercises in which the student will be expected to reproduce the style and diction of the authors studied. The course corresponds to course 214 in residence and is open to those who have passed creditably "Deutsche Aufsätze und Stilübungen" and "Deutscher Satzbau und Stil" or have had equivalent training in German theme writing. Of special value to graduate students and teachers who aim to acquire a high degree of efficiency in German essay writing. Mj. ASSISTANT PROFESSOR VON NOÉ.

16. Outline History of German Literature.—

A. Includes a survey of the development of German literature from the scanty remnants of the earliest period of tribal migrations, heroic romances, and early ballads, through the first period of efflorescence—the twelfth and thirteenth centuries with their troubadours and national epics; the period of Humanism and the Reformation, up to the second period of efflorescence—the eighteenth century. Mj.

B. Aims at a more detailed study of prominent writers of the eighteenth century; the Romantic Movement with its best representatives, and the most characteristic novelists, dramatists, and lyricists of the nineteenth century. A is not prerequisite to B. Mj. DR. VON KLENZE.

NOTE.—Prerequisites for both A and B: Students taking either one of these courses must have a good reading knowledge of German as well as the ability to write it with some ease. It is advisable that at least one of the courses in some special field of German literature as "The Short Story," or "Goethe's Lyrics," or their equivalents, should precede this course.

17. Gothic.—A consideration of Gothic phonology, morphology, and syntax in connection with the reading of selections from the Bible translation of Wulfila. Intended as a review course or for those who have had philological training. Mj. ASSOCIATE PROFESSOR WOOD.

18. Old High German.—The reading of selections from Braune's *Althochdeutsches Lesebuch*, with reference to the same author's *Abriss der althochdeutschen Grammatik*. This course is a natural sequent of course 17. Prerequisite: course 17 or its equivalent. Mj. ASSOCIATE PROFESSOR WOOD.

19. Old Saxon.—The work will be based on Holthausen's *Altsächsisches Elementarbuch*. Open to those who have had courses 17 and 18 or their equivalent. Mj. ASSOCIATE PROFESSOR WOOD.

20. Old Norse-Icelandic Prose.—The purpose of the course is to offer students who have had a beginning course in Icelandic an opportunity to learn to read Icelandic prose readily. An annotated saga text providing about three hundred pages of reading matter is selected, and the student is asked to read in addition on the antiquarian and literary problems involved. During 1912-13 the *Egils saga Skallagrímssonar* was read. Zoëga's *Old Icelandic Dictionary* is recommended. Prerequisite: Residence course 112 or its equivalent; a beginners' course involving a historical study of the sounds and inflections of the language and the reading of about 40 pages of Old Icelandic prose. This prerequisite course must itself be preceded by "Gothic." Mj. ASSISTANT PROFESSOR GOULD.

SCHOOL OF EDUCATION

21. The Teaching of German in Secondary Schools.—The method of teaching German in high schools and academies has undergone radical changes within the last few years. The object of this course is (1) to make the teacher acquainted with the new methods and their application to the teaching of pronunciation, grammar, composition, reading, and translation; (2) to furnish him an opportunity to discuss his particular problems. Mj. DR. GRONOW.

22. The Teaching of German Literature.—A discussion of the choice of texts, use of literary commentaries, value of student reports upon supplementary reading, and the use of oral quizzes upon prescribed topics. This and similar theoretical discussion is undertaken in connection with the reading of selections from the German classics chosen from the lists recommended for study in each year of the high school and college. Instruction will be conducted entirely in German. Mj. ASSISTANT PROFESSOR VON NOÉ.

Members of the Germanic Department will endeavor to arrange informal courses for students who are able to do work of an advanced nature, whenever practicable.

NOTE.—Related courses will be found in Department XVI.

XV. THE ENGLISH LANGUAGE AND LITERATURE

ELEMENTARY

1. English Grammar.—A course in practical English grammar, assuming no technical knowledge of the subject, and intended for students who need instruction or review in the fundamental principles of the language, especially with relation to the correct combination of words in sentences. In some cases this course will be desirable as preparation for the following composition courses. The work submitted to the instructor will consist mainly in the correction of faulty constructions, the analysis of sentences, and the writing of original sentences to illustrate the principles discussed in the textbook. [This course commands no credit. For "English Grammar for Teachers," see course 28 below.] Mj. ASSOCIATE PROFESSOR MARSH.

ACADEMY

2. Preparatory English Composition.—

A. A simple introduction to English composition, intended mainly for the following classes of students: (1) those who have had no formal training in the subject; (2) foreigners with some knowledge of grammar, but without much

experience in writing the language; (3) any persons who are not properly prepared for a more advanced course. The work is roughly equivalent to the composition requirements of the first two years of a good high school, consisting in the writing of simple themes based mainly on the student's own experience and observation, and the preparation of exercises illustrating the simpler rhetorical principles. For credit see note below. Mj.

B. A more advanced course than the foregoing, substantially equivalent to the composition work of the last two years in a good high school, and definitely intended to prepare for college composition. Teachers in secondary schools also may find the course helpful in their work. Business and professional men whose early training has been deficient can gain valuable experience in practical composition from this course or the foregoing, according to the extent of the deficiency. The work consists of exercises illustrating all the main principles of rhetoric, and themes of a somewhat more difficult type than those asked for in course A. For credit see note below. Mj. ASSOCIATE PROFESSOR MARSH AND MR. CHERINGTON.

3. Preparatory English Literature.—In two majors the works in English and American literature required for admission to college will be studied. The aim, however, is to make the courses valuable not only to students preparing for college, but also (1) to teachers of English in preparatory schools, and (2) to all persons who wish to take up, either for the first time or by way of review, the more simple and concrete phases of the study of literature. Those who desire the entire high-school work in masterpieces should register for the two majors in succession; those who wish to take the work for review, or to obtain help in methods of teaching the masterpieces, may choose for themselves. For credit see note below.

A. This course will cover approximately the work in literature of the first two years of the high school, with study of the simpler masterpieces among those listed "for reading" in the list of college-entrance requirements. Mj.

B. In this course the masterpieces listed "for study" will be emphasized, with attention also to some of the more difficult books among those listed "for reading." The work is approximately that of the last two years of high school and directly preparatory for college. Mj. ASSOCIATE PROFESSOR MARSH AND MR. CHERINGTON.

NOTE.—Students who satisfactorily complete and pass the "A's" of both "Preparatory English Composition" and "Preparatory English Literature" will receive credit for the second of the three units in English required for entrance to college; those who satisfactorily complete and pass the two "B's" will receive credit for the third of the three units.

COLLEGE

4. English I.—This is designed to be a full equivalent of English 1 (the first course in English composition and rhetoric required of all students in residence) and commands corresponding credit. It presupposes the ordinary training in English composition received in a good high school, and represented in a general way by the preceding courses. More detailed study of the principles of rhetoric, as presented in a more advanced textbook, is made; and a higher standard of theme work, on a variety of topics usually chosen (subject to certain limitations) by the student himself, is expected. The emphasis throughout is placed upon writing of the most practical sort. The course is newly revised (1913) with use of a volume of prose selections along with a very recent textbook. Mj. ASSOCIATE PROFESSOR MARSH.

5. English III.—This course is designed to be a full equivalent of English 3 (the second course in English rhetoric and composition required of all students in residence) and commands corresponding credit. The course aims (1) to give training in structure, and (2) to give instruction and practice in the four forms of composition—exposition, argumentation, description, and narration. To these ends a textbook is required, lesson papers must be submitted, and a final examination taken. The written work will consist of six long themes each from 1,500 to 3,000 words in length, and twelve short themes of from 100 to 200 words each.

in addition to exercises based on the textbook. Admission to the course may be obtained by passing creditably "English I," or by submitting to the instructor an original exposition or argument showing ability. Mj. DR. HULBERT.

6. English IV.—

A. *Exposition—Argument.*—Instruction will be given in pure argument, in the technique of debate, and in persuasive exposition. The work consists of (1) the writing of papers on the theory of these forms of composition; and (2) the writing of two briefs, two arguments, and two expositions. Mj. ASSISTANT PROFESSOR KNOTT.

B. *Description—Narration.*—In this course the descriptive study is incidental to the narrative. The work is based on the reading of six novels and a number of short stories. It consists (1) in the writing of papers on the theory of narrative writing as discussed in a text and illustrated in the novels and stories read, and (2) in the writing of sixteen short themes and four long ones—three of these, short stories. The course is designed primarily for those who are interested in the short story, though the exercises aim to set forth, broadly, problems which are characteristic as well of other narrative forms, e.g., the novel. Mj. MR. GRABO.

C. *Journalistic Writing.*¹—Study is made of the News Story, the Book Review, the Editorial, and the Feature Story. The forty lessons constituting the course, include (1) critical exercises and (2) original work upon topics assigned by the instructor or approved by him from lists submitted by the student. A text is used as a basis for a part of the work. The student is expected to study the form of news stories and editorials in at least one good newspaper, to follow current topics in several of the best magazines, and to gather some of the material for his papers (notably the feature stories) from first-hand observation. Mj. MR. GRABO.

7. *English V.—Magazine Writing.*¹—A course of forty lessons embracing the study and the writing of the Special Article, Literary Criticism, and the Personal Essay. The student will be required to read examples of these forms and to submit analyses of them. A volume of selected essays will serve as a text for the latter part of the course. Mj. MR. GRABO.

8. *English VI.—Advanced Composition.*—For students who have credit for a Major of "English IV" or for "English V" and who are desirous of receiving criticism upon essays, stories, or articles. There are no lessons or exercises, the sole requirement being that the student submit 30,000 words of original matter. The initiative lies solely with the student; the instructor confines himself to criticism and advice. It is essential that any student entering this course have definite work in mind. Others than graduates of "English IV" or "English V" will be admitted only upon the submission of MS. displaying a technique adequate to the course. Mj. MR. GRABO.

9. *The Development of English Literature.*—This course is designed to be the full equivalent of course 40 in residence, the first required course in English literature. It introduces the student to the whole range of English literature by requiring the reading of selected masterpieces from *Beowulf* to the present time. Two volumes of selections from English authors, one of prose and one of poetry, and a short history of English literature are used as the basis of study. The aim is: (1) to give the student first-hand acquaintance with typical parts of the work of each of the leading English writers; (2) to study the place of the masterpieces in the development of English literature, in their relation not only to one another but also to historic events and conditions; (3) to give the student the foundation for an appreciation of literature. The course as a whole affords a broad introduction to the more detailed and critical study undertaken in "English Literature by Periods." Mj. ASSOCIATE PROFESSOR MARSH.

10. *An Introduction to American Literature.*—A series of studies of American life in American literature. The first few lessons are given over to pre-Revolutionary literature for the purpose of observing the earliest departures from English

¹ Registrations accepted after September 1.

models and traditions. Chief emphasis is, however, thrown on the poets, essayists, and novelists of the nineteenth century. While the aim of the course is to put the student in the way of obtaining a preliminary acquaintance with the subject as a whole, assigned readings are restricted to selected works of twelve or fifteen representative men of letters, from Irving and Cooper to Lanier and Whitman. Mj. MRS. DAVENPORT.

NOTE.—For admission to any one of the following courses, course 9 or its equivalent is prerequisite.

11. An Introduction to the Study of Shakspeare.—This course, corresponding to course 41 in residence, is planned to give the student a knowledge of Shakspeare's life and work, a familiarity with typical plays of the various periods in his dramatic career, some acquaintance with his relation to his age and its literature, and an introduction to the fields of Shakspearean criticism and scholarship. Especial attention will be paid to Shakspeare's handling of character and plot, to the development of his taste and technique, and to the influence exerted upon him by the literary and the social trends of the time. The following plays will be studied: *Richard III*, *A Midsummer-Night's Dream*, *Romeo and Juliet*, *I Henry IV*, *Much Ado about Nothing*, *Twelfth Night*, *Hamlet*, *King Lear*, *Antony and Cleopatra*, and *The Tempest*. Mj. ASSISTANT PROFESSOR BASKERVILL AND MRS. BASKERVILL.

12. English Literature by Periods.—A series of reading courses, corresponding to courses 42-48 in residence, which cover with some minuteness the history of English literature from the middle of the sixteenth century down to 1892. In each major the work consists mainly in the reading of a large number of representative masterpieces of the period, and the preparation of answers to questions based upon this reading. Textbook work in a literary history of each period is assigned and the lesson sheets furnish much supplementary material, such as bibliographies of the required authors, suggestions for study of their principal works, etc. It is not necessary that the series be taken in chronological order, as each course is complete in itself; but those intending to take the whole series are advised to follow the chronological order. The series as a whole is designed to give first-hand knowledge of the chief masterpieces of modern English literature, excepting only Shakspeare's works, which are treated in special courses. Persons who have had course 9 or its equivalent, and who desire to do systematic reading of English literature without regard to college credit, may also arrange for any of these courses.

A. *English Literature from 1557 to 1642.*—Reading of Spenser (at least one book of *The Faerie Queene* and various shorter poems), Wyatt, Surrey, Sackville, Sidney, Herrick, Milton (minor poems), and other poets; plays by Marlowe, Jonson, Beaumont and Fletcher, and lesser dramatists both before and after Shakspeare; Ascham's *Schoolmaster*, portions of Lyly's *Euphues* and other works of fiction, Sidney's *Defence of Poesie*, Bacon, Raleigh, and Sir Thomas Browne. Mj.

B. *English Literature from 1642 to 1744.*—Reading of representative prose works of Milton, Taylor, Walton, Pepys, Clarendon, Bunyan, Dryden, Addison, Steele, Defoe, and Swift; poems of Milton (four books of *Paradise Lost*, *Samson Agonistes*, etc.), Dryden, Pope, Thomson, and numerous minor poets; plays by Dryden, Otway, Congreve, Wycherley, and other Restoration dramatists. Mj.

C. *English Literature from 1744 to 1798.*—Reading of novels by Richardson, Fielding, Smollett, Sterne, Johnson, Goldsmith, the so-called "Gothic" romancers, and Fanny Burney; miscellaneous prose by Johnson, Goldsmith, Boswell, Gibbon, and Burke; poems by Gray, Collins, Goldsmith, Chatterton, Blake, Cowper, Crabbe, Burns, and others; plays by Goldsmith and Sheridan. Mj.

D. *English Literature from 1798 to 1832.*—Poems by Wordsworth, Coleridge, Southey, Scott, Campbell, Moore, Byron, Shelley, Keats, Hunt, Hood, Landor; novels by Scott and Jane Austen; miscellaneous prose by Coleridge, Lamb, Hazlitt, DeQuincey, the reviewers, etc. Mj.

E. *English Literature from 1832 to 1892*.—Reading of numerous poems by Tennyson, the Brownings, Matthew Arnold, Clough, the Rossettis, Swinburne, Morris, and others; novels by Dickens, Thackeray, Charlotte Brontë, George Eliot, Meredith, Hardy, and Stevenson; miscellaneous prose by Carlyle, Macaulay, Newman, Arnold, Pater, Ruskin, and Stevenson. Mj.

ASSOCIATE PROFESSOR MARSH.

Courses A-E (or their equivalents) are required of all candidates for the Doctor's degree in English, and at least four of them (or equivalents) for the Master's degree. Hence, though a year of resident study is required for the Master's degree, students may take these required courses by correspondence and later do more highly specialized work in residence. Graduate credit will be given to properly prepared students, who do creditable work in their recitation papers and pass the final examination given on each course. Students not entitled to graduate credit, moreover, may register for any of the courses, the only prerequisite being course 9 or its equivalent.

13. *The Elizabethan Drama*.—This is a series of courses intended to give the student a familiarity with the dramatic movement in England which reached its zenith in Shakspeare. Besides involving a close study of Shakspeare's plays and some of the greater plays of his contemporaries, early and late, these courses deal with the formative influence of contemporary life and thought upon the drama; with Elizabethan dramatic criticism and its more important results, especially as they concern Shakspeare; with matters of literary taste; with the handling of character and plot; with sources and relations; etc. The courses are arranged to give practically a chronological sequence in the study of types, writers, and plays, including the plays of Shakspeare, but each course is treated as a unit and may be taken separately.

A. *Shakspeare's Predecessors*.—This course, which corresponds to course 84 in residence, includes a brief introductory survey of the mediaeval drama; a more detailed consideration of the Renaissance drama as influenced by the Reformation and humanism, and of the development of new types and new theatrical conditions; and finally a more intimate study of the development of a native romantic drama as revealed in Lyly, Peele, Kyd, Green, and Marlowe. Mj.

B. *Shakspeare's Early Period (1590-96)*.—In this course the experimental comedies, the first group of chronicle plays, and the early masterpieces of Shakspeare are studied. The details of his life, the growth of his art, the influence of theatrical conditions on his work, and his imitation of contemporary dramatists are considered. The plays studied are: *Love's Labor's Lost*, *The Comedy of Errors*, *The Two Gentlemen of Verona*, *Henry VI*, *Richard III*, *King John*, *Richard II*, *Titus Andronicus*, *A Midsummer-Night's Dream*, *Romeo and Juliet*, and *The Merchant of Venice*. Mj.

C. *Shakspeare's Middle Period (1596-1603)*.—This course is organized to include chiefly the comedies of the middle period of Shakspeare's life—the Falstaff chronicle plays, the witty comedies, and the satiric comedies at the beginning of his tragic period. Especial attention is paid to the structure of comedy and to Shakspeare's reflection of social life. The plays studied are: *The Taming of the Shrew*, *I and II Henry IV*, *Henry V*, *The Merry Wives of Windsor*, *Julius Caesar*, *Much Ado about Nothing*, *As You Like It*, *Twelfth Night*, *Troilus and Cressida*, *All's Well That Ends Well*, and *Measure for Measure*. Mj.

D. *Shakspeare's Later Period (1603-11)*.—In this course the great tragedies and the final comedies are studied, with especial emphasis on the art and structure of tragedy and the dramatic seriousness of Shakspeare's work. The plays dealt with are: *Hamlet*, *Othello*, *King Lear*, *Macbeth*, *Timon of Athens*, *Pericles*, *Antony and Cleopatra*, *Coriolanus*, *Cymbeline*, *A Winter's Tale*, *The Tempest*, and *Henry VIII*. Mj.

E. *Shakspeare's Successors*.—This course, the equivalent of course 85 in residence, deals with the history of the English drama from 1600 to 1642. The rise of the comedy of humors and of manners, the perfection and the decadence of tragedy, and the later phases of romantic comedy are treated. Masterpieces of Jonson, Dekker, Heywood, Beaumont and Fletcher, Middleton, Webster,

Massinger, Ford, and Shirley, are studied, with attention not only to the characteristics of these writers but to their interrelations, their influence on the course of the drama, and their reflection of social conditions. Mj.

ASSISTANT PROFESSOR BASKERVILL AND MRS. BASKERVILL.

NOTE.—Course 11 or its equivalent is prerequisite for any one of the five majors of course 13.

14. The Growth of the English Novel.—The historical development of narrative prose fiction in English is traced in outline from the later mediaeval prose romancers and story-tellers to the beginning of the twentieth century. A brief preliminary review of the field of fiction is attempted in the initial lessons—the qualities shared by novelist and poet, the material common to both, the similarities in general construction of the novel and drama; and throughout, the continental influences are noted, sources inquired into, and the modifications in structure and content of the novel in succeeding periods are indicated. Illustrations of the various aspects and principles of the art of fiction are drawn from the representative works selected.

A. *From Sir Thomas Malory to Oliver Goldsmith.*—In this course one work of each of the following authors is read: Malory, Lyly, Sidney, Lodge, Greene, Nashe, Bunyan, Defoe, Swift, Richardson, Fielding, Smollett, Sterne, and Goldsmith. The character-sketch of the seventeenth century, and as it is developed by Steele and Addison in *The Spectator*, is briefly dealt with, as are other literary forms which contributed to, or tended to shape, the modern novel. Mj.

B. *From Mrs. Radcliffe and Godwin to Stevenson and Kipling.*—Beginning with the reappearance in England of romantic prose fiction—the “School of Terror,” or the “Gothic” romance, and the “School of Theory”—doctrine or revolutionary, one work of each of the following authors is read: Walpole, Mrs. Radcliffe, Godwin, Fanny Burney, Maria Edgeworth, Jane Austen, Scott, Cooper, Hawthorne, Lytton, Dickens, Thackeray, Kingsley, Trollope, Reade, Charlotte Brontë, George Eliot, Meredith, Hardy, Stevenson, and Kipling. The course concludes with a brief consideration of fiction as affected by the scientific movement of the nineteenth century, particularly by physiology and psychology. Mj. MR. HILL.

15. The Life and Works of Spenser.—The course corresponds to course 69 in residence, and is for advanced, though not necessarily graduate, students. The *Faerie Queene* and the minor poems; allegory; the poet's versification; his position and significance with respect to mediaevalism, the Renaissance, and especially Elizabethan poetry are considered. Mj. ASSISTANT PROFESSOR KNOTT.

16. The Life and Works of Wordsworth.—A more detailed examination of the poet's most significant work, especially the *Prelude* and the lyrical ballads, and their significance with relation to the Romantic Movement. Prerequisite: course 12 D, “English Literature from 1798-1832.” M. ASSISTANT PROFESSOR KNOTT.

17. The Works of Robert Browning.—The work of this “incorrigible optimist” offers unusual problems in subject-matter and in form. The peculiarities of his style, and the varied forms in which he wrote present abundant material for the study of technique, and of general principles of literary art.

A. *Studies in the Early Poems.*—This course gives detailed consideration to the poems published before 1868, thus including much of Browning's most characteristic and suggestive work. M.

B. *“The Ring and the Book” and Dramas.*—M. MRS. WARREN AND MRS. DAVENPORT.

18. Studies in the Poetry of Tennyson.—The course deals with the most significant works of this representative nineteenth-century poet. Especial attention is given to his place in the development of English poetry, to the characteristic qualities of his verse, and to his close relation to the general currents of thought in his time. The study includes the early poems, *Maud*, *In Memoriam*, *The Idylls of the King*, and minor poems. M. MRS. WARREN AND MRS. DAVENPORT.

19. Representative English Essayists of the Nineteenth Century.—An advanced undergraduate study of six essayists, including a brief preliminary discussion of the appearance in England of the essay, and its development as a literary form. The work is based upon typical essays of Lamb, De Quincey, Macaulay, Carlyle, Ruskin, and Arnold. Newman or Hazlitt may be substituted for De Quincey if desired. The method of study is the biographical and historical, and to a limited extent the philosophical. Emphasis is laid upon the intimate relation of literature to the forces of social life. Mj. MR. HILL.

20. The Makers of American Literature.—This course embraces a study of Emerson, Whittier, Longfellow, Lowell, Holmes, and Hawthorne—the representative writers of that period of intellectual activity in New England which roughly corresponds with the first half of the Victorian era. The various ways in which this activity expressed itself—in oratory, scholarship, Unitarianism, transcendentalism, and reform—are incidentally examined in so far as they affected or were affected by these writers. Sufficient attention is given to the general history of American literature to make this period intelligible to the student. Mj. MR. HILL.

21. Modern Realistic Fiction.—This course is designed to present the content and method of a typical group of realistic novels. The following works, or their equivalents, will be read: George Eliot's *Silas Marner*, Hardy's *Tess of the D'Urbervilles*, Ward's *Lady Rose's Daughter*, Howells' *A Modern Instance*, Meredith's *The Egoist*, Tolstoi's *Anna Karenina*, Zola's *L'Assommoir*, Frenssen's *Jörn Uhl*, Barrie's *Tommy and Grizel*, Fogazzaro's *The Patriot*. Mj. MRS. WARREN AND MRS. DAVENPORT.

22. The Short Story in English and American Literature.—In connection with a brief résumé of the history of the short story in England and America, students will read, critically, a number of representative stories by Irving, Hawthorne, Poe, Dickens, Bret Harte, Henry James, Page, Cable, Stockton, Davis, Mary E. Wilkins, Hardy, Doyle, Stevenson, Kipling, and others. The critical study will be devoted principally to investigation of the methods by which effectiveness is secured. Mj. ASSOCIATE PROFESSOR MARSH.

23. The Principles of Literary Criticism.—This course presents and compares some of the most influential critical tenets; examines the relations of literature to other arts, and the support given to criticism by recent studies in the psychology of artistic production. Mj. MRS. DAVENPORT.

24. The Irish Literary Revival.—A study in the literature of the modern Celtic revival presupposes some acquaintance with Celtic myth, legend, and romance. The course, therefore, begins with this subject, following with the living folk literature, fairy tales, folk tales and songs, and then passing to the work of the modern poets and dramatists. Yeats, Synge, Hyde, Lady Gregory, Ethna Carberry, and other writers will be read. M. MRS. DAVENPORT.

25. Elementary Old English.—Grammar and reading, corresponding to course 21 in residence. Mj. ASSOCIATE PROFESSOR MARSH.

26. Advanced Old English.—*Beowulf*.—An informal course in which the whole of the poem is read. Mj. ASSOCIATE PROFESSOR MARSH.

27. Introduction to Chaucer.—May be taken by students who have had no training in Middle English. Along with the reading of selected poems there will be a study of the main facts regarding Chaucer and his works. Mj. ASSOCIATE PROFESSOR MARSH.

SCHOOL OF EDUCATION

28. English Grammar for Teachers.¹—A much more advanced course than the one numbered 1, above. Some stress will be laid on the historical development of the language, on the textbooks available, and on the problems with which teachers have to deal. Mj. ASSOCIATE PROFESSOR MARSH.

¹ Registrations accepted after January 1, 1914.

29. The Teaching of English Composition in Secondary Schools.—This course will include a survey of methods in American and foreign schools, and will outline the problems involved in teaching adolescents the art of literary expression. These problems arise mainly from three circumstances: first, the fact that composition is at the same time a fine art and a tool in every-day business intercourse; second, that like the teaching of literature it is based on the psychology of adolescence; and third, that it is a most important agent in education, being the readiest medium of self-expression. Mj. MRS. DAVENPORT.

30. The Teaching of English Literature in Secondary Schools.—This course proposes a definite aim in teaching based on the function of art in education. The main topics involved are the place of literature in general culture, its special relations to adolescence, the psychology of adolescence, the course of study, and methods of study. Mj. MRS. DAVENPORT.

NOTE.—Related courses will be found in Departments XVI, CLI.

XVI. GENERAL LITERATURE

This Department offers work to two distinct classes of students: (1) those doing graduate work in comparative literature, for whom a knowledge of the original languages and some previous training in literature are indispensable; (2) those doing undergraduate work, who wish to become acquainted with foreign literatures for the purpose of general culture, and for whom a reading knowledge of the original languages, though desirable, is not necessary. The courses presuppose "English I" and "The Development of English Literature" or their equivalent.

1. Masterpieces in World Literature.—This course falls in section C of the Department of General Literature in which literature is treated as general culture rather than as specialized study, hence no knowledge of any language other than English is required. Moulton's *World Literature* will furnish the general point of view, the historic and literary background for the course. This will be supplemented by the reading, wholly or in part, of selected masterpieces, among which will be the five literary Bibles recognized in the textbook—the Holy Bible, Classic Epic and Tragedy, Shakspeare, Dante and Milton, and versions of the story of Faust. There will also be readings in comparative literature, studies in collateral literature, and a survey of strategic points in the development of literature as a science. As an equivalent to General Literature 1 in residence, it is primarily a college course but it is also admirably adapted to the needs of the general reader. Books for the required work may be found in any well-selected library or may be borrowed from the University by arrangement with the Librarian. Mj. PROFESSOR MOULTON AND MISS SCHRADER.

2. The Literary Study of the (English) Bible.—This course is intended for those who teach or expound the Bible, and for those who merely read it as a part of universal literature. The aim of the course is (1) to familiarize the student with the literary forms found in the Scriptures, under the general divisions of Lyric Poetry, History with Epic, Wisdom Literature, Prophecy, and forms of Address; (2) to show how the separate books of the Bible when read in their literary sequence, draw together with a literary connection like the unity of a dramatic plot. Moulton's *The Modern Reader's Bible*—in which the books of the Bible with three of the Apocrypha are edited in modern literary form—and Moulton's *The Literary Study of the Bible* are the required texts. Mj. PROFESSOR MOULTON AND MISS SCHRADER.

3. Dante and Milton.—The purpose of this course is to familiarize the student with the special significance of Dante as an interpreter of Mediaeval Catholicism and of Milton as a revealer of Renaissance Protestantism. The study will include a brief survey of the life and early work of each of the poets, but emphasis will be placed upon the *Divina Commedia* and *Paradise Lost* as these embody the spirit of progressive civilization. Special attention will be given to the structure of the poems as related to the matter presented; to the

aspects of good and evil as interpreting the philosophical thought of Mediaevalism and the Renaissance; and to the elements of creative excellency which give to both Dante and Milton a place among the supreme poets of the world. For the study of Dante, Plumptre's metrical translation is recommended, but the prose translation of C. E. Norton may be used; for the study of Milton, the Cambridge edition of *Milton's Poetical Works* will be used. The required work of the course is based upon matter contained in the texts, but bibliographies are included and recommended readings are cited to aid the student who desires to supplement the required work with more exhaustive study. Mj. PROFESSOR MOULTON AND MISS SCHRADER.

4. **Studies in Modern Drama.**—In the drama produced in England and on the continent since Ibsen began to write, opportunity is offered for the study of some of the most significant and representative literature of our time. This course offers plays by Ibsen, Bjornsen, Strindberg, Sudermann, Hauptmann, D'Annunzio, Tchekhof, Phillips, Jones, Pinero, Shaw, Galsworthy, Moody, Rostand, Echegaray, Yeats, Synge, and Maeterlinck. Mj. MRS. WARREN AND MRS. DAVENPORT.

5. **Homer and Ancient Tragedy for English Readers.**—The aim of this course is to present Greek epic and tragedy from a purely literary point of view. It will include a study of the poetic heroes of the Argonautic Expedition and of the Trojan War. The works will be read in translation and in the order of the story sequence rather than in the chronological order of their authorship. Under the myth of the first generation *The Argonauts* of Apollonius, *Medea* of Euripides, and *Jason* of William Morris (a modern reconstruction) will be read. A larger selection of works will be included under the myth of the second generation, including the *Iliad*, the *Odyssey*, and tragedies of Aeschylus, Sophocles, and Euripides that touch the story of the Trojan War. Besides noting the place these works occupy in the progressive development of a story sequence, both epics and tragedies will be studied with reference to structure and general technique. Vergil's dependence upon Homer and his influence upon mediaeval literature will also be noted. Mj. PROFESSOR MOULTON AND MISS SCHRADER.

6. **German Literature (in English).**—This course attempts a survey of the principal movements in German Literature from its first appearance to the present day. Representative authors are studied and constant attention is given to the connection of social and intellectual life with German poetry. Mj. DR. HEINZELMANN.

XVII. MATHEMATICS

ELEMENTARY

1. **Complete Arithmetic.**—This course is intended as a review of the general principles of arithmetic. While serving the student, it will be helpful to grade teachers preparing for examination. Part I treats of general number, the four fundamental operations, factoring, fractions, and practical applications of denominate numbers. Part II drills upon the applications of percentage, and actual methods of modern business. Part III considers ratio and proportion, powers and roots, mensuration, and the metric system. Numerous problems are given to illustrate all points. [This course does not command credit.] Mj. ASSISTANT PROFESSOR HOOVER OR ASSOCIATE PROFESSOR LAVES.

ACADEMY

2. **Elementary Algebra.**—

A. This course is designed for beginners and deals in a very simple way with the elementary principles of algebra. It will prove especially helpful to high-school students who have found the subject a difficult one, since special emphasis is laid upon type-forms and modern methods of instruction. The principal topics discussed are: the four fundamental operations of algebra, factoring and its applications, together with an introduction to the subject of graphs. [This course by itself does not command credit.] M.

B. This course presupposes some acquaintance with the subject, and treats of general number, algebraic number, the four fundamental operations, integral algebraic equations, type-forms in multiplication and division, factoring with the usual applications, fractional and literal equations in one unknown number, interpretation of solutions of problems, simultaneous linear equations, with solutions of numerous problems and interpretations. Every topic is illustrated by many examples. The theory is thorough and rigorous. Mj.

C. Continues B, taking up irrational numbers, surds, imaginary and complex numbers, quadratic equations, equations leading to quadratics, roots of quadratic equations, adaptation to questions in maxima and minima, equations of higher degree than the second, irrational equations, simultaneous quadratic and higher equations, ratio, proportion, variation, theory of exponents, the progressions. Mj. ASSISTANT PROFESSOR HOOVER OR ASSOCIATE PROFESSOR LAVES.

3. **Plane Geometry.**—The theory is well illustrated by numerous original exercises. The first major comprises the first two books; the second, the remainder of plane geometry. DMj. ASSISTANT PROFESSOR HOOVER OR ASSOCIATE PROFESSOR LAVES.

4. **Review of Elementary Mathematics.**—To meet the constant demand for help in reviewing elementary mathematics the following courses are offered. They are open to anyone who can present satisfactory evidence of a first study of the subject-matter, but because they presuppose this they do not command credit. In each course the student may use the text with which he is familiar. The charge for tuition is \$16 per course regardless of combination.

A. *Algebra through Quadratics.*—The ground covered corresponds to that in Milne's *Standard Algebra* (pp. 1-360).

B. *Plane Geometry.*—The ground covered corresponds to that in Holgate's *Elementary Geometry* (pp. 1-260).

ASSOCIATE PROFESSOR LAVES

Descriptive Geometry.—A series of four majors. (Cf. description under Drawing C, p. 65.) MR. FERSON.

COLLEGE

5. **Solid Geometry.**—Here, as in plane geometry, emphasis is laid on exercises calling for original work. Mj. ASSISTANT PROFESSOR HOOVER OR ASSOCIATE PROFESSOR LAVES.

6. **Plane Trigonometry.**—Theory and practice in the solution of triangles by natural functions and logarithms. Applications to simple problems of surveying, physics and astronomy. Properties of the trigonometric functions treated analytically and graphically. Applications to simple harmonic and wave motion. Mj. ASSISTANT PROFESSOR HOOVER OR ASSOCIATE PROFESSOR WILCZYNSKI.

7. **Plane Trigonometry by the Laboratory Method.**—It is one of the tenets of the laboratory method of mathematical instruction that the student shall approach each principle and each problem from at least two of the following viewpoints: the *graphical* (by use of drawings, generally to scale), the *analytical* (by use of formulae), the *arithmetical* (by use of tables), and the *mechanical* (by simple experiments or by appeal to simple physical principles). Experience shows that the total effect of the views from the various angles gives greater mastery than a single view, however clear. Some combination of the arithmetical and analytical methods is found in most modern texts. This course aims to simplify and intensify the concepts of trigonometry by making large use of the graphical method in connection with the others from the beginning. Mj. ASSOCIATE PROFESSOR LAVES.

8. **Spherical Trigonometry.**—M. ASSISTANT PROFESSOR HOOVER OR ASSOCIATE PROFESSOR LAVES.

9. **College Algebra.**—The notion of variable and function, and their geometric representation. Variation. Equations of the first degree and determinants. Quadratic equations, complex numbers and theory of equations. Fractional

and negative exponents, exponentials and logarithms. Mathematical induction, binomial theorem and progressions. Limits and infinite series. Undetermined coefficients, permutations, combinations and probability. Mj. ASSISTANT PROFESSOR HOOVER OR ASSOCIATE PROFESSOR WILCZYNSKI.

10. Plane Analytic Geometry.—The student who has a good command of mathematics up to this point secures in this course a control of the elementary processes and principles of the powerful science of analytic geometry—a science of systematic application of algebra and trigonometry to the study of problems of geometry. Rectangular, oblique and polar co-ordinates in the plane. The relation between a curve and its equation. The algebra of a variable pair of numbers and the geometry of a moving point. Specific applications to the properties of straight lines, circles, conic sections and certain other plane curves. Extension of the most fundamental of these notions to space. Mj. ASSISTANT PROFESSOR HOOVER OR ASSOCIATE PROFESSOR WILCZYNSKI.

11. Solid Analytic Geometry.—The co-ordinate systems in space. Lines, planes and quadric surfaces. General properties of surfaces and space curves. (Informal.) Mj. ASSISTANT PROFESSOR HOOVER OR ASSOCIATE PROFESSOR WILCZYNSKI.

12. Calculus.—This subject is presented in two majors, the first treating of the differential, and the second, of the integral calculus. The fundamentals are carefully studied and find extended and varied application in the selected problems. DMj. ASSISTANT PROFESSOR HOOVER.

13. Calculus with Applications.—This is designed for students intending to pursue the study of pure or applied mathematics as well as for those who are actively engaged in work which presupposes a knowledge of calculus. An important feature throughout is the large number of practical applications. In dynamics, physics, mechanical and electrical engineering a working knowledge of the calculus is essential. Therefore in the exposition of the theory dynamical, physical, and geometrical illustrations are freely used. It is the aim to acquaint the student with the kind of mathematics which he will find useful and to cultivate the power of applying the principles of the calculus, at first to simple, then to more difficult practical problems. The course is divided into three parts:

A. This deals mainly with the differential calculus and applications. Mj.

B. Chief attention is given to the integral calculus and applications. Mj.

C. This provides (1) a continuation of the treatment of several topics begun in A and B; (2) applications of the calculus; (3) a brief treatment of differential equations. Mj.

Prerequisite: solid geometry, trigonometry, college algebra, and plane analytic geometry. ASSOCIATE PROFESSOR WILCZYNSKI.

14. Analytical Mechanics.—An elementary course, requiring a good working knowledge of the calculus. Mj. ASSISTANT PROFESSOR HOOVER OR ASSOCIATE PROFESSOR LAVES.

15. Elements of Theories of Probability and of Least Squares.—In this course enough of the mathematical theory will be given to fit the student to pursue the following course with profit. The fundamental conceptions are carried far enough to put the student in practical possession of the theories of these subjects. Mj. ASSOCIATE PROFESSOR LAVES.

16. The Theory of Errors.—This course requires a fair academic knowledge of enough differential and integral calculus to make clear the meaning and use of the probability-integral. It will have little to do with the theory of probabilities or of least squares further than relates to the discussion of erroneous observational data and the best-known and most practicable methods of eliciting from such data their content of truth. Mj. ASSOCIATE PROFESSOR LAVES.

17. Theory of Equations.—The fundamental properties of algebraic equations, their transformation, and the approximate determination of their roots. Determinants, symmetric functions and invariants. (Informal.) Mj. or DMj. ASSISTANT PROFESSOR HOOVER OR ASSOCIATE PROFESSOR WILCZYNSKI.

18. Differential Equations.—Discussion of problems which lead to differential equations and of the standard methods for their solution. (Informal.) Mj. or DMj. ASSISTANT PROFESSOR HOOVER OR ASSOCIATE PROFESSOR WILCZYNSKI.

19. Projective Geometry.—Veblen and Young's *Projective Geometry*. (Informal.) DMj. PROFESSOR MOORE.

20. Introduction to Analysis.—A somewhat critical study of the fundamental elementary notions of Analysis. Hardy's *A Course in Pure Mathematics*. (Informal.) DMj. PROFESSOR MOORE.

GRADUATE

21. History of the Science of Mathematics.—This course is intended to put the student in possession of a knowledge of the most fruitful epochs and of the most salient influences of mathematical history; to make him more keenly appreciative of the fact that his science is and always has been a growing science, to inform him that the attitude of mind exhibited by the works of the great mathematicians is most conducive to progress today; in short, to assist the mathematical student to identify himself more intelligently with those men and movements which are making for mathematical advance at the present time. Mj. PROFESSOR MYERS.

22. History of the Teaching of Elementary and Secondary Mathematics.—Especial attention is here given to the historic order of evolution of the subject-matter of arithmetic, algebra, geometry, and trigonometry, and to the ideas which, among the various peoples who have contributed to these subjects, have determined the place and functions of these subjects from age to age, in the education of the youth. The work will be conducted from the higher point of view of the teacher and with reference to the meaning, for current teaching of these subjects, of the historic stages through which they have passed to reach their present status in school curricula. Mj. PROFESSOR MYERS.

23. Spherical Harmonics.—This course gives chief attention to such special forms of partial differential equations as integrate into the standard series and functions called for in advanced studies in heat, light, vibration, electricity, and gravitation. The course will be of special value to students or teachers of mathematics, advanced physics, mechanics, and astronomy as well as to practical electricians and engineers of good attainment. Mj. ASSOCIATE PROFESSOR LAVES.

24. Advanced Analytic Geometry.—Homogeneous point-, line-, and plane-coördinates with applications to projective geometry. Projective, dualistic, and other transformations. The importance for geometry of the notions; transformation, group, and invariant. (Informal.) Mj. or DMj. ASSISTANT PROFESSOR HOOVER OR ASSOCIATE PROFESSOR WILCZYNSKI.

25. Theory of Functions of a Real Variable.—Hobson's treatise on the subject will be used. (Informal.) DMj. PROFESSOR MOORE.

26. Theory of Functions of a Complex Variable.—Burkhardt's *Einführung in die Theorie der analytischen Funktionen*. (Informal.) DMj. PROFESSOR MOORE.

27. Algebra.—Weber's *Lehrbuch der Algebra*. (Informal.) DMj. PROFESSOR MOORE.

28. Theory of Numbers.—Bachmann's *Zahlentheorie*. (Informal.) Mj. PROFESSOR MOORE.

29. General Analysis.—A study of classes of functions of a general variable, based on Moore's *Introduction to a Form of General Analysis*. Prerequisite: a knowledge of the theories of convergent series and of continuous functions. (Informal.) Mj. or DMj. PROFESSOR MOORE.

SCHOOL OF EDUCATION

30. Review Course in Mathematics for the Elementary School.—This is designed primarily for the review and restudy, from the teacher's point of view,

of the subject-matter upon which the mathematical work of the elementary schools should be based. It deals largely with the applications of mathematics to quantitative problems and questions of school environment and everyday life. The number work of geography, nature-study, commerce, business, of construction, and of the industries will receive special emphasis. Out of work drawn from these various sources the science of arithmetic will be derived. The bulk of the work will consist in the actual solution of problems drawn from modern life and representing real conditions. The course will be given under the following heads: (1) work in counting, indefinite comparison and measurement, covering the period from Grade I to Grade V, inclusive; (2) work in direct measurement, definite comparison, and ratio, covering the period from Grade III to Grade VII, inclusive; (3) direct and indirect measurement and comparison, covering the period from Grade V to Grade VII, inclusive; (4) observational and experimental geometry, inductive geometry, and generalized arithmetic, covering the period from Grade V to Grade X, inclusive. [This course commands School of Education credit only.] Mj. PROFESSOR MYERS.

31. Theory of the Teaching of Elementary-School Mathematics.—This course is based on a good knowledge of the subject-matter of arithmetic, algebra and geometry. It includes a critical study of (1) the content, (2) the organization, and (3) the methods of presenting mathematics to grade pupils. The curriculum is critically studied from grade to grade, with a view to determining the best type of work for the modern elementary public school. Some attention is given also to testing the results of arithmetic teaching. Mj. PROFESSOR MYERS.

32. The Psychology of Number.—The work of this course requires a good knowledge of the subject of arithmetic and some power of abstract thought. Questions having to do with the psychological genesis, and growth of the number concept are examined. The psychologic grounds for and against the ideas which have dominated pedagogic method in the elementary mathematics are critically examined. The variable unit conception of number is studied with special care. The purpose of the course is to make teachers of elementary mathematics clearly conscious of the function of this subject in elementary education, thereby rendering this practice immune from contagion of shallow mechanical devices as methods of training the number faculty of children. Mj. PROFESSOR MYERS.

33. Teachers' Course in the First Two Years of Secondary Mathematics.—This course covers the essentials of the work in mathematics usually taught in the first two years of the high school. The subjects, algebra and geometry, are related to each other and to other topics not usually treated in the first two years. Thus trigonometry is introduced in the second year leading to the solution of the right triangle and simple trigonometric equations. The course serves as a review from the point of view of the teacher, it suggests methods of presenting the subject-matter to high-school classes, and brings the teacher into close touch with modern ideas and methods. It presents the work under the aspect of unified mathematics. DMj. PROFESSOR MYERS.

34. The Teaching of Secondary Mathematics.—This course covers the general theory of the teaching of secondary subjects. It examines critically the best modern courses in algebra, geometry and trigonometry, and undertakes to point out the present defects in the organization and administration of the mathematical work in high schools with a view to specifying desirable improvements. Some general attention is given to the advantages and disadvantages of fusion mathematics. Subject-matter is treated only in so far as needed to exhibit method and organization. Mj. or DMj. PROFESSOR MYERS.

35. The Teaching of College Algebra, Trigonometry, and Analytics.—A good academic knowledge of these subjects is required for admission to this course. The following topical enumeration will suggest the nature of the questions considered: (1) the purpose of college algebra, trigonometry, and analytics in the curriculum of the college: (a) viewed from the teacher's standpoint, (b) viewed from the student's standpoint; (2) method of teaching these subjects as

determined by this purpose; (3) the correlation idea as applied to Freshman college mathematics; (4) the laboratory method in Freshman college mathematics; (5) use of graphical work early and all along; (6) applications of these subjects in teaching them; (7) dangers of this teaching becoming too abstract; (8) order and sequence of special topics. Any recent text in each of these subjects will answer. Mj. PROFESSOR MYERS.

History of the Teaching of Elementary and Secondary Mathematics.—(Cf. description under Mathematics 22.) Mj. PROFESSOR MYERS.

History of the Science of Mathematics.—(Cf. description under Mathematics 21.) Mj. PROFESSOR MYERS.

The History of Astronomy.—(Cf. description under Astronomy 2.) Mj. PROFESSOR MYERS.

Members of the mathematical department will endeavor to arrange informal courses for students who are able to do work of an advanced nature, whenever practicable.

XVIII. ASTRONOMY

1. Descriptive Astronomy.—An elementary general culture course designed: (1) to furnish an idea of the principles, methods, and results of the science; (2) to show the steps by which the remarkable achievements in it have been attained; and (3) to unfold that extended horizon which astronomy has laid open. This work covers the recent investigations respecting the origin and development of the solar system. Moulton's *Introduction to Astronomy*. (Informal.) Mj. PROFESSOR MOULTON AND ASSISTANT PROFESSOR MACMILLAN.

2. The History of Astronomy.—This is a culture course on the subject for persons who desire to familiarize themselves with the scientific ideas, methods, and results that have determined scientific progress down to recent times. The history of no science so fully exhibits the complete scientific method as does the history of this oldest, most complete, and most exact of all the sciences. A careful study of it may well constitute a part of a liberal education. It is both stimulating and directly helpful to teachers of high-school science and mathematics. A real basis for much of the high-school mathematics is furnished by supplying the astronomical setting from which it sprang. Mj. PROFESSOR MYERS.

3. Celestial Mechanics.—A treatment of the dynamics of the solar system, including the contraction theory of the heat of the sun, the attraction of bodies, the two-body problem, the general integrals of motion, the three-body problem, perturbations, and determination of orbits. Moulton's *Introduction to Celestial Mechanics*. Prerequisite: course 13 in mathematics or its equivalent. (Informal.) DMj. PROFESSOR MOULTON AND ASSISTANT PROFESSOR MACMILLAN.

XIX. PHYSICS

1. Elementary Physics.—

A. Mechanics, Molecular Physics, and Heat.—This course corresponds essentially to the first major of course 1 in residence, and is designed to cover the first half-year's work in elementary physics as given in high schools and academies. A text is followed rather closely in the reading lessons, supplemented by new problems and references to other textbooks. The apparatus for the required laboratory work, together with detailed instructions for setting it up and performing the experiments, are packed in a special case and shipped to the student. Reports on both the reading and laboratory work are submitted by the student for approval or correction. A deposit of \$15 is required for the loan of the apparatus. This will be refunded when the same is returned intact, less expressage and \$3, the loan fee. Mj.

B. Electricity, Magnetism, Sound, and Light.—A continuation of course A and the equivalent of the second half-year of high-school physics. The plan for text and laboratory work laid down under course A is followed in this course. A

deposit of \$15 is required for the loan of apparatus. This will be refunded when the same is returned intact, less expressage and \$3, the loan fee. Mj.

PROFESSOR MILLIKAN AND DR. MOORE.

NOTE.—Courses A and B together constitute the admission unit in physics.

XX. CHEMISTRY

1. General Inorganic Chemistry (sequel to High-School Chemistry).—The two majors into which the work is divided furnish a review and a continuation of "Elementary Chemistry" and form the link between the average high-school course in chemistry and "Qualitative Analysis." They correspond to courses 2S and 3S in residence. In view of the fact that different students will have different degrees of preparation, the number of lessons may be varied by omitting such parts of the subject as the student may already have mastered; in this way the work will be adapted to individual needs, and waste of time and effort will be avoided. Students must provide themselves with a balance sensitive to one centigram, with weights 50 gm. to 0.01 gm., and must have access, at least, to a barometer. This apparatus cannot be loaned. The rest of the *apparatus* needed for either course A or course B will be loaned for a deposit of \$15. The *chemicals* necessary for course A will be loaned for a deposit of \$10, and for course B for \$15. When the apparatus and chemicals are returned, the deposits will be refunded, less the cost of packing, non-returnable and missing parts, breakage, carrying charges and a fee of \$1.50 for the use of the apparatus in each major, \$2.50 for the chemicals in course A, and \$3.50 for those in course B.

A. This course includes a study of the metallic and non-metallic elements and their chief compounds. It includes also the study of the laws and principles of the science and their use in explanation of chemical phenomena. The laboratory work, which is an important part of the course, affords opportunity for gaining direct knowledge of the different substances, their modes of manufacture, and their properties. In the choice of illustrations preference is given to the industrial and other applications of chemistry. Prerequisite: a course in inorganic chemistry as ordinarily given in high schools. Mj.

B. Continues course A. Mj.

DR. RAIFORD.

2. Qualitative Analysis.—The second year of college work in chemistry is offered in the following three majors. The apparatus and the reagents for any one of them will be loaned for a deposit of \$30. If only the set of sixty glass stoppered bottles, required for the necessary solutions, is needed, they can be loaned for a deposit of \$6. The deposit will be refunded when the apparatus is returned, less deductions for the loan (\$1.50 for the apparatus, \$3.50 for the chemicals, \$0.50 for the bottles), carrying charges, and broken and missing parts. An extra charge of \$1 per major is made for "unknowns."

A. This course aims to present the fundamental methods of qualitative analysis. The analytical reactions of the most important metals and acids are studied. This is done in such a way that the student learns the art of performing tests, and comes to understand how the methods of separation and detection are based upon a judicious selection and arrangement of these tests. During the course each student analyzes a number of simple salts, and a few mixtures which contain, in each case, only the metals or acids of a single group. Qualitative analysis has been modified by the influence of physical chemistry. The theories of solution and of electrolytic dissociation, and the study of problems in chemical equilibrium have all contributed to furnish analytical chemistry with a scientific foundation which it never possessed before. Course A is planned to develop the subject with this scientific, theoretical foundation and at the same time to give a thorough foundation in *systematic analysis*. Prerequisite: "General Inorganic Chemistry" (A and B) or the equivalent. Mj.

B. Continues course A and gives the student practice in the *systematic analysis* of simple salts, simple mixtures, and finally, of rather difficult mixtures in which the metals and acids are to be determined. Fifteen to twenty-five

"unknowns" will be analyzed. The main object of the course is to develop *accuracy* and *reliability* and these must be demonstrated in the final analyses to secure credit. Mj.

C. Continues course B and requires the analysis of complicated mixtures, and especially the analysis of minerals and commercial products. Mj.

PROFESSOR STIEGLITZ.

XXI. GEOLOGY

ACADEMY

1. Physical Geography.—This course is designed especially for high-school students or those desiring a course equivalent to that given in a first-class high school. The lessons treat of the form of the earth and its solar relationships; the work of running water, underground water, waves, glaciers, and the atmosphere as agencies which are at present as in the past, modifying the earth's surface; and the phenomena of vulcanism and movements of the earth's crust. Some attention is paid to climate. Emphasis is laid on the relation between man and his physiographic environment and outdoor features are made the basis for some of the later lessons. Mj. MR. STEPHENSON.

COLLEGE

2. Physiography.—The course embraces the following general subjects: (1) the form of the earth as a whole, and its relation to other members of the solar system, particularly the sun and the moon, with the consequent changes in the length of day and night and the seasons; (2) the atmosphere—its constitution, temperature, pressure and movements, weather changes and climate; (3) the ocean—its constitution, temperature, movements, geologic activities, coastline phenomena; (4) the land—the geologic processes by which the earth's topography has been chiefly determined, and the varied topographic types which result therefrom, including the study of the origin and development of plains, plateaus, river valleys, mountains, volcanic cones, islands, and seashore features. The effects of man's physical environment upon his distribution, his habits, and his occupations will be continually emphasized. Topographic maps and folios will be studied, and the maps will be used in connection with land forms. The rocks and minerals forming the earth's crust will be treated as fully as the course permits. The last lessons will give the student some opportunity to do individual field work. Laboratory methods will receive attention throughout the course. The course covers the ground of course 1 offered in residence, and is suited to the needs of those who teach physical geography and physiography in preparatory schools. Mj. ASSISTANT PROFESSOR CALHOUN.

3. General Geology.—This course treats of the leading facts and principles of geology, and the more important events of geological history. It embraces the following general subjects: (1) the materials of the earth; (2) physiographic geology—the work of atmosphere, running water, glaciers, waves and currents, and organic agencies treated in a manner to supplement the physiographic studies of course 2; (3) vulcanic, diastrophic, and structural geology; (4) elementary studies in the interpretation of topographic and geologic maps; (5) historical geology—a systematic study of the development of the series of geological formations, with special reference to the evolution of the North American continent, and the historical development of life forms; (6) economic geology; (7) a special general geological report on a particular area in the student's own vicinity. This course covers the ground of course 5 in residence, and is adapted to the needs of teachers in high schools and academies, to those interested in economic geology, and also to students not intending to specialize in geology. Course 2, while desirable, is not a prerequisite. Mj. MR. STEPHENSON.

4. Interpretation of Topographic and Geologic Maps.—This course is intended especially to introduce teachers of high-school, normal-school, and college grade to modern methods of laboratory work in physiography and general geology. It may also be taken by teachers of nature-study in the grades, and by

those interested in regional physiographic problems. It will serve as a basis for the study of the physiographic features of widely separated regions in the United States, and as a supplement to the physiographic studies of courses 2 and 3. The course assumes that the successful teaching of physiography must be accompanied by a clear understanding of topographic maps, and by their continued use. It is based on topographic maps of the United States Geological Survey, and a guide to their interpretation, and includes: (1) general principles in the interpretation of topographic maps; (2) topographic forms resulting from the work of wind, ground water, running water, glaciers, oceans and lakes, diastrophic movements, and vulcanism; (3) interpretation of the physiographic history of specially selected regions, on the basis of topographic maps; and (4) enough work with geologic maps to show something of the connection between geologic structure and topography. Prerequisite: a knowledge of physiography equivalent to that afforded by either course 2 or 3. M. ASSISTANT PROFESSOR TROWBRIDGE.

5. Elementary Mineralogy.—A course intended to familiarize students with the common minerals. A large part of the work will consist in determining, principally by means of their physical properties—streak, hardness, cleavage, specific gravity, etc.—the 85 or 90 specimens which will be furnished. The origin, occurrence and economic uses of each mineral also will be studied. The work on minerals will be supplemented by a brief discussion of the rocks, their modes of formation, occurrence and classification. The course is intended for beginners and no previous geological training is required, but an understanding of a few of the fundamental principles of chemistry is highly desirable. The streak plate and the set of specimens will be furnished for a fee of \$3.50. A small hand lens and a specific gravity balance will be very useful and if possible should be procured by the student. The set of minerals becomes the property of the student, and will serve for future reference or as a nucleus for a collection. Mj. DR. BROKAW.

6. Economic Geology.—This course is designed to give a general knowledge of the principles governing the formation and occurrence of the more important ores and non-metalliferous deposits, and of the conditions, commercial and otherwise, which limit their exploitation. It covers the study of (1) structural materials—including building stones, clays, limes, mortars, and cements; (2) fuels—including coal, petroleum, and natural gas; (3) principles controlling the deposition of metalliferous ores—including the nature and genesis of ores, the forms of ore bodies, and their relations to the structural features of the containing rocks, the formation of cavities in rocks, underground waters, their composition, circulation, etc.; (4) ores of metals—including iron, copper, lead, zinc, gold, and silver. No attempt will be made to cover the entire field, but typical districts or occurrences will be studied in each case. Incidentally it is hoped the student will learn how to study a district independently, and to that end he will be put in touch with the general literature of the subject. The student is expected to be familiar with the common rocks and minerals. Prerequisite: course 3, or a practical knowledge of geology gained by experience in mining, etc. Mj. ASSOCIATE PROFESSOR EMMONS.

XXI A. GEOGRAPHY

1. The Elements of Geography.—An introductory study of the earth; its physical features and the relations of land, air, and water to life—especially to human affairs. Mj. MISS LANIER.

2. Influence of Geography on American History.—A study of the geographic conditions which have influenced the course of American history; their importance as compared with one another, and with non-geographic factors. Mj. MISS LANIER.

¹ Registrations accepted after September 1.

SCHOOL OF EDUCATION

3. The Teaching of Geography in the Primary Grades.—This course, corresponding to course 1 in residence, is designed for teachers, supervisors, and principals. The main topics considered are: (1) home geography—a study of the products, industries, and physical aspects of the region in which the student is located; (2) foreign geography—a consideration of regions which best illustrate the geographic control of cold (Greenland), heat and moisture (Amazon basin), drought (Arabia); (3) selection and adaptation of material best suited to the first four grades. Mj. ASSOCIATE PROFESSOR BABER.

4. The Teaching of Geography in the Grammar Grades.—The aim of the course is to consider the principles underlying the selection and adaptation of material in continental geography for the grammar grades, through the study of Eurasia. The subjects treated are: (1) relief and its causes; (2) climate; (3) distribution of vegetable and animal life; (4) peoples and their industries. A detailed study is made of Europe, India, China, and Japan in these respects. Special emphasis is placed upon the educative value of modeling and the drawing of maps and type landscapes, and training in work of this kind is afforded in the course. Mj. ASSOCIATE PROFESSOR BABER.

XXII. ZOÖLOGY

While the first five majors offer the practical equivalent of the first two years' work in Zoölogy in the University, a student who finishes them and wishes to continue the study of the subject in residence will be advised to take course 26 in residence for the sake of additional training on the experimental side.

1. General Animal Biology.—This course which corresponds to course 1 in residence consists of laboratory work and reading, and is especially recommended to (1) those desiring a general culture course; (2) teachers; and (3) those looking forward to the study of medicine. The student must have had some high-school training in science, preferably in chemistry or physics, or both. The laboratory work includes (a) a study of the structure, activities, and life-history of one or two unicellular animals (e.g., Amoeba, Paramoecium); (b) a similar study of one of the higher animals (e.g. the frog, its anatomy, histology, general physiology and development); and (c) a study of karyokinesis (cell-division). All those who are registered in the course in early spring will be required to collect some amphibian eggs. A fee of \$5 will be charged for the materials furnished and loan of slides. Materials furnished are preserved frogs with circulatory system injected, certain reagents not easily obtainable by the student, and a good supply of note and drawing paper. The slides will illustrate cell-division, histology of the frog, etc. A compound microscope, magnifying 400 times, a hand lens, and a set of dissecting instruments will be needed. The cost of instruments (exclusive of the microscope and hand lens) need not exceed \$3. The cost of books will depend upon the library facilities of the student, but need not in any case exceed \$8. Mj. Dr. SHELFORD.

2. Evolution (Introductory Course).—The equivalent of course 5 in residence. The course gives an unprejudiced treatment of one of the central problems of biology and is intended to serve as an introduction to more advanced special work in zoölogy and other biological branches. Yet the general student will find the work absorbingly interesting if he is prepared to read widely and to form independent judgments as to the validity of arguments and evidence. Among the topics discussed are: (1) brief survey of animal groups in the order of increasing complexity; (2) the idea of a phylogenetic tree; (3) evidences of evolution from comparative anatomy, embryology, paleontology, and geographical distribution; (4) the ancestry of man; (5) the history of the evolution idea from the Greeks to Darwin; (6) Darwinism—a critical discussion; (7) post-Darwinian hypotheses as to the causes of evolution; (8) variation and heredity as prime factors of evolution; (9) modern experimental evolution; (10) the present status of evolutionary thought. Mj. ASSOCIATE PROFESSOR NEWMAN.

3. General Morphology and Natural History of the Invertebrates.—The two majors of this course correspond to courses 15 and 16 in residence.

A. Protozoa, Porifera, Coelenterata, Platyhelminthes, Nemathelminthes, and Echinodermata.—An introduction to the study of invertebrate animals. The work includes laboratory study of the anatomy, physiology, and, as far as possible, of the life-history of typical forms, together with assigned reading. Special emphasis is laid on the economic importance of the animals considered. The fundamental principles of comparative morphology are kept in view throughout the course. In addition to the study of the material furnished (about thirteen forms) the student will be expected to acquaint himself with some of the typical invertebrates of his own locality, and directions for the collection and determination of such forms will be given. The securing of the protozoa studied in the course is a part of the laboratory work, and since protozoa must be cultivated in infusions, which require from one to three or four weeks, the student should not delay registration until he is ready to begin work. Instructions for making infusions will be sent with the first lessons. Fee for material and loan of more difficult preparations, \$5. Mj.

B. Mollusca, Annulata, and Anthropoda.—Continues A. About twelve forms, including some especially prepared, are furnished. Fee for materials and the loan of the more difficult preparations, including slides illustrating adaptation among insects, \$6.25. Mj. DR. SHELFORD.

4. General Morphology of the Vertebrates.—An introduction to the study of vertebrate animals, more especially recommended for teachers of zoölogy and those contemplating the study of medicine. The course is elementary and may profitably follow course 3, though 3 is not prerequisite; it corresponds to course 17 in residence. The work will consist of assigned readings and dissection. The following type forms will be furnished for dissection: elasmobranch, frog, and necturus. Observation of the life-history and development and metamorphism of the frog will be expected, to be supplemented by readings on the natural history, geographical distribution and classification of both the elasmobranchs and amphibians. (Informal.) Mj. PROFESSOR WILLISTON AND MR. MEHL.

5. Economic Zoölogy.—Under this title an attempt will be made to provide the instruction given in course 4 in residence in which the student is familiarized with the structural, ecological, and physiological diversity among the animals of his locality, and the principles of economic zoölogy. The course is introduced here in the sequence because it is deemed advisable that the non-resident student shall have done the work of all the preceding majors. Only students who have completed the two majors of course 3 with a high grade will be admitted. Some special apparatus costing from \$5 to \$10 will be necessary. The books required will differ in individual cases. (Informal.) Mj. DR. SHELFORD.

6. Comparative Osteology.—A comparative study of the skeleton of typical amphibians, reptiles, birds, and mammals, with especial reference to their relationships, classification, and origin. This course is recommended as preliminary to the general study of the vertebrates, or in preparation for the study of medicine. (Informal.) Mj. PROFESSOR WILLISTON AND MR. MEHL.

7. Advanced Animal Ecology.—This course which corresponds to course 52 in residence is designed for students who have taken "Animal Ecology" in residence and consists chiefly of definite systematic fieldwork. All the animals of certain habitats will be studied in relation to each other and to the conditions in which they live. The student must consult the instructor before registering for this course. Prerequisite: "Physiographic Animal Ecology" (29 in residence). (Informal.) Mj. DR. SHELFORD.

XXIV. PHYSIOLOGY

1. Introductory Physiology.—The object is to develop an appreciation of the human body. This necessitates a knowledge of its structure and the work of its parts separately and as a whole. Knowledge of this kind is a necessary foundation for advanced study such as is demanded of students of medicine, pharmacy,

dentistry, and kindred subjects. Some information of this kind should be the possession of every intelligent person for without it effective co-operation in the modern methods of healing and preventing disease, as practiced by physicians, is impossible. A further use of physiological facts is their application to methods employed to solve many social problems of today. To teachers such knowledge is especially valuable. It enables them to use and conserve the bodily powers both of themselves and of their pupils and to analyze intelligently deficiencies exhibited by their pupils and so make proper adjustments.

A. This is essentially a summary of the history of food in the body. In the *textbook work*, after stating the point of view from which the subject is to be attacked, the following topics are discussed: (1) life—theories advanced to explain its nature, conditions necessary for its existence; (2) protoplasm, cells, tissues, organs and their relations and, incidentally, the subject of "division of labor"; (3) blood—its structure, components, use, and how it gains foods; (4) respiration; (5) digestion and digestive fluids; (6) secretion and absorption. In the *laboratory work*, which will require a microscope for a short time (two weeks or so), directions will be given for the study of (1) blood; (2) properties of foods; (3) the changes which food undergoes under the action of the various digestive fluids. Some knowledge of chemistry is essential. The requisite laboratory equipment and materials will be loaned for a deposit of \$15. Mj.

B. Continuing A, study is made of (1) how the blood with its acquired foods is distributed throughout the body (circulation); (2) how the lymph gets to the cells; (3) history of food in the body cells—fats, glycogen, muscle, nerve, the various tissues, their physiology and metabolism, are discussed; (4) excretion; (5) animal heat. Directions are given for making the necessary experiments to illustrate physiological methods and the physiology of the organs of circulation, muscle, and nerve. The requisite laboratory equipment will be loaned for a deposit of \$15. Mj.

C. Continuing B, study is made of the physiology of the brain, cord, and senses, to give general acquaintance with the structure of the central nervous system. Known facts in its physiology are discussed and so far as possible the methods by which these facts have been ascertained are explained. The main facts of the anatomy and physiology of the brain, eye, ear, and other sense organs are brought out through dissection for which full directions are furnished. Mj. ASSISTANT PROFESSOR LINGLE.

NOTE.—The deposit for either A or B will be refunded when the set of apparatus is returned, less charges for breakage, expressage, and a loan fee of \$3.

XXVII. BOTANY

1. **General Morphology of the Algae and Fungi.**—This course consists of twelve exercises covering the ground of the laboratory work of the twelve weeks' course given at the University. The fifty types studied represent all the main groups of algae and fungi. In connection with a study of the structure, development, and relationships of the various forms, the principal problems considered are: (1) the evolution of the plant body, (2) the origin and evolution of sex, and (3) parasitism, saprophytism, and symbiosis. This is pre-eminently a course for beginners, but it is also adapted to the needs of teachers who, though acquainted with the older style of botany, desire an introduction to the more modern phases of the subject. The material in many of the types is sufficient for a class of eight or ten students. An additional fee of \$2.50 is charged for the material and the loan of preparations. The applicant must have access to a compound microscope with a low- and a high-power objective, the latter being a $\frac{1}{2}$, a $\frac{1}{3}$, or a $\frac{1}{4}$, preferably a $\frac{1}{4}$. Mj. ASSOCIATE PROFESSOR CHAMBERLAIN.

2. **General Morphology of the Bryophytes and Pteridophytes.**—A course similar to the one on algae and fungi, and requiring that course or its equivalent as a prerequisite. The structure, life-histories, and relationships of the liverworts, mosses, and ferns are studied in characteristic types. The principal problems considered are: (1) the evolution of the sporophyte, (2) the reduction of the gametophyte, (3) heterospory, and (4) alternation of generations. A compound

microscope is needed, as in course 1. There are needed for this work skilfully stained preparations, which necessitate a knowledge of microtechnique. Arrangements have been made whereby a limited number may secure a loan of the necessary preparations for a fee of \$2.50 in addition to the fee for material. No one should register without consulting the instructor. Fee for material, \$2.50. Mj. ASSOCIATE PROFESSOR CHAMBERLAIN.

3. General Morphology of the Gymnosperms and Angiosperms.—A course similar to the two preceding courses, and requiring both of them (or their equivalent) as a prerequisite. Aside from a study of the structure and development of typical forms the most important features of this course are: a study of spermatogenesis, oögenesis, fertilization, embryology, karyokinesis, and a brief survey of Engler's scheme of classification. A compound microscope is needed as in courses 1 and 2. No one should register without consulting the instructor. Fee for material and loan of the more difficult preparations, \$5. Mj. ASSOCIATE PROFESSOR CHAMBERLAIN.

NOTE.—Courses 1, 2, and 3 are designed to give the student a comprehensive view of the structure, development, relationships, and problems of the plant kingdom. These courses form the necessary foundation for all advanced work, whether the advanced work be morphology, physiology, ecology, or taxonomy. They are required of all who make botany their major subject for the Bachelor's degree, and are required of all who make botany either a major or minor for any higher degree. The development of a clear, bold style of scientific drawing receives attention in all of these courses.

4. Elementary Plant Physiology.—This course corresponds to course 2 in residence. It aims to give the student a general knowledge of the life-processes of higher plants and is introductory to the advanced courses in the subject given in residence. The work will consist of experiments illustrating the different topics, together with assigned reading in a standard textbook. It is adequate to meet the needs of high-school teachers. For the experimental work little more apparatus will be needed than that found in the physical and chemical laboratories of the average high school. A list of required articles will be furnished on application. Reports of both reading and experiments will be called for and will be returned with corrections. Anyone registering should realize that serious difficulties will be encountered unless some facilities for growing plants are at hand. This difficulty can be met by doing the work during the summer months. Mj. ASSISTANT PROFESSOR CROCKER.

5. Elementary Plant Ecology.—This course covers essentially the same ground as Coulter's *Plant Relations*, and does not necessarily require previous botanical training though some work in plant analysis and in the study of plant structures is highly desirable. The object of the course is to present to the student the factors which influence the functions, form, and distribution of the common plants of his neighborhood. At first the different forms of leaves, stems, and roots are studied; then the plant is taken as a whole with respect to the advantages it possesses in the struggle for existence because of a particular structure—leaf, root, or stem. Under the subject of stems, the identification of the common trees is required. The work may be carried on chiefly out of doors, and no microscope is needed. Mj. ASSOCIATE PROFESSOR COWLES AND MR. FULLER.

6. The Scientific Basis of Agriculture.—This is chiefly a reading course of general nature dealing with the main physiological factors influencing plant production. Several phases of the work will involve simple experiments which call for little apparatus. Some of the topics considered are: (1) soils as influencing plant growth and production; (2) seeds and germination of seeds of economic plants and weeds; (3) water relations of plants; (4) synthesis of foods and their uses in plants; (5) reproduction and fertilization and physiology of budding and grafting. In addition to the textbooks constant use will be made of various agricultural bulletins and other scientific pamphlets. In case the pamphlets cannot be obtained gratis they can be borrowed from the Correspondence-Study Department for a nominal fee. This course should be attempted only by persons having a fair general knowledge of botany. Mj. ASSISTANT PROFESSOR CROCKER AND DR. ECKERSON.

7. Elementary Forestry.—The principal subjects covered by this course are: (1) the identification of trees by the use of keys and other helps; (2) the life-relations of trees, that is, trees as influenced by light, soil, temperature, wind, animals, and by the struggle for existence; (3) the composition and distribution of the forests of the United States, involving the making of distributional maps; (4) some economic aspects of forestry, namely the proper care and management of the forests, including plans for improvement cuttings, for reproduction, and for protection from fire. The object of the course is to impart an elementary general knowledge of forestry, including the forestry problems in the United States, and it is offered primarily to teachers in the belief that they can do much to influence public opinion in regard to one of the most important economic problems confronting the country. The course may be given entirely through lectures and textbooks, but whenever practicable such work will be supplemented by field exercises on some limited forested area selected by the student. As the instructor spends a considerable part of each summer in the northern woods beyond regular mail service the student should plan to do as much of the work as possible during the other seasons of the year. Mj. Dr. Howe.

8. Ecological Plant Anatomy.—This course is a continuation of course 5 and corresponds to course 30 in residence. It involves a careful study of the absorptive, conductive, synthetic, protective, and storage tissues of plants in relation to their functions, with special attention to the variations of structure in so far as they depend upon changes in environment. Students electing this course should have a knowledge of elementary botany and be somewhat familiar with the use of the microscope. A knowledge of German is required of graduate students. The student must have access to a good compound microscope, and if the work is to be done during the winter, access to a greenhouse is very desirable. Fee for materials and loan of slides, \$2.50. Mj. ASSOCIATE PROFESSOR COWLES AND MR. FULLER.

9. Field Ecology.—This course is designed primarily for those students who have taken residence courses in ecology, and who desire to pursue further investigations along this line. The work consists very largely of systematic study in the field. A definite region or plant formation may be made the subject of study, or some problem may be selected in the ecology of plant structure or behavior. (Informal.) Mj. ASSOCIATE PROFESSOR COWLES.

10. Elementary Plant Anatomy.—A study of the tissues and tissue systems of vascular plants from the standpoint of phylogeny. This work is very different from the old anatomy in which facts were presented without any attempt to relate them to each other. The course deals with the morphology and evolution of the vascular system, and is based upon a comparative study of representative juvenile and adult forms of Pteridophytes, Gymnosperms, and Angiosperms. A microscope magnifying about four hundred diameters is necessary. An extensive knowledge of micro-technique is not essential. Directions for preparation of material and making of the necessary mounts will be given in the exercises. Fee for material and loan of slides, \$2.50. Mj. ASSISTANT PROFESSOR LAND.

11. Methods in Plant Histology.—This course deals with the principles and methods of killing, fixing, imbedding, sectioning, staining, and mounting. The student must have access to a compound microscope magnifying at least four hundred diameters, a microtome, and some other apparatus and reagents. A fee of \$2.50 is charged for plant material which is not readily collected at all seasons. No one should register without consulting the instructor. Mj. ASSISTANT PROFESSOR LAND.

SCHOOL OF EDUCATION

12. Teachers' Course in Botany.—This course treats of the leading facts and principles that are involved in presenting botany in secondary schools. The following are some of the topics considered: (1) the place of science, particularly botanical science, in secondary education; (2) a review of botanical material in order to establish a basis of consideration of other elements of the course; (3) study of types of plant life as found in the student's locality; (4) criticism of

outlines that are recommended for courses in botany and related biological subjects; (5) outline of a course fitted to the local school needs and botanical environment; (6) consideration of laboratory and fieldwork, apparatus and illustrative material; (7) teacher's helps—reference works, magazines, forestry and agricultural publications, maps, charts, and photographs; (8) reports upon special topics. This course is similar to course 21, School of Education (course 50, Department of Botany). Prerequisite: three majors in botany, or experience through teaching, or practical study. The student must consult the instructor before registering. Mj. ASSOCIATE PROFESSOR CALDWELL.

XXVIII. PATHOLOGY AND BACTERIOLOGY

ACADEMY

1. General Bacteriology and the Relation of Bacteria Yeasts and Molds to the Household, Dairy, Industries, and Agriculture.—This is primarily a culture course designed for those who do not wish to go to the expense of setting up a laboratory and will consist of: (1) simple experiments at home; (2) examination and description of sealed cultures; (3) writing of themes on assigned subjects; (4) selected readings. [This course commands only admission credit.] Mj. DR. HEINEMANN.

COLLEGE

2. Bacteriological Methods.—The following subjects will be covered: (1) principles of sterilization; (2) manipulation of the microscope; (3) rôle of bacteria in nature; (4) methods of growing bacteria; (5) methods of staining bacteria; (6) description of bacteria; (7) bacteriology of water and milk. The work will appeal especially to students preparing for the medical profession and to practitioners who wish to renew their knowledge of the subject. The applicant must have access to a compound microscope with a low-power and a high-power objective. If all the apparatus is purchased it will cost approximately ten dollars exclusive of the microscope, but many of the parts can be extemporized. A complete set of the apparatus needed, packed ready for shipment, will be supplied for \$12. Course 1 is not prerequisite. Mj. DR. HEINEMANN.

3. Advanced Bacteriology.—A series of courses designed for those interested in some particular branch of bacteriology, e.g., medical, sanitary, agricultural, etc.

A. Yeasts, Molds, and Acetic Acid Bacteria.—A course designed especially for those wishing to prepare themselves for the practical use of bacteriology in fermentation industries. The general methods of studying this class of microorganisms are studied and practical work proposed. Mj.

B. Water and Milk Analysis.—This course covers the methods of practical water and milk analysis. The methods given are those in use at health and private laboratories, and, though not complete for research, give the student an idea of how research may be prosecuted after these subjects have been mastered. Mj.

C. Bacteriological Examination of Soil.—An elementary course in soil bacteriology, giving the methods now in vogue for investigation of soil conditions. Some knowledge of chemistry is required. Mj. DR. HEINEMANN.

CXXII. NATURAL SCIENCE

1. Elementary Natural Science.—This course is based largely on out-of-door observations and experiences and is intended primarily as an introduction to the interpretation of the common nature materials and phenomena of the home region with special reference to their use in the elementary schools. It corresponds to course 1 in residence and embraces some six of the following topics: (1) common birds of the locality and their relation to agriculture; (2) life-histories of some insects and their economic importance; (3) identification of other animals of the region, their habits and habitats; (4) the domestic animals with a study of their history, breeding, and the laws of heredity involved; (5) the trees

and shrubs and a brief sketch of the problem of forestry; (6) seeds and seedlings together with the elementary principles of seed selection and the physiology of growth; (7) the spore-bearers and the problem of community health involved in the life-histories of some of the tiniest of them; (8) the plant societies of the region with discussion of the factors involved in their location, limits, and relations. Topographic maps, areal maps, and soil maps of the State or United States Geological Survey will be used whenever available. Unidentified material should be collected and forwarded for identification. Students are advised not to register for this course during the Winter Quarter. Mj. ASSISTANT PROFESSOR DOWNING.

2. Regional Studies.—The work of this course will be directed toward a study of the region, considered as a whole, which lies within convenient reach of the student. It corresponds to course 3 in residence and involves a study of: (1) the physical subdivisions of the area as well as a study of the causes which have given rise to these subdivisions; (2) the physiographic history of the area, its genesis and development; (3) the present content of plant life with reference to the factors which have influenced its entrance, development, and distribution in the area; (4) the present content of animal life, including the factors which have influenced its entrance, development, and distribution in the area. The work presupposes at least high-school courses in physical geography, botany, or zoölogy. Mj. ASSISTANT PROFESSOR DOWNING.

3. School Gardening and Elementary Agriculture.—The course is intended to include a study of the elementary principles of agriculture necessary to relate the activities of the school to the agricultural life of the country. These activities naturally center about the school garden; hence these studies include reading and experimental work on such topics as (1) the planning and planting of the school and home grounds; (2) the place of the school garden, how it should be planned and related to the other departments of the school; (3) the best trees for school and home grounds and how they should be planted; (4) the best plants for the school garden and the best methods of culture; (5) propagation from seeds, cuttings, and bulbs, in window boxes, hotbeds, and out of doors; (6) plant-breeding, its scope and results; (7) weeds, their identification and control; (8) window gardening in the school and home; (9) plant-diseases and insect-enemies, their recognition and control; (10) soils, their physical and chemical nature; (11) fertilizers, their composition and use; (12) special problems in agriculture peculiar to the locality which need recognition and discussion in the school. The exercises are of such a nature that they make use of the material which may be available in any particular locality, while suggestions will be offered and assistance given in the study of local problems. Mj. MR. FULLER.

CLI. SCHOOL-LIBRARY ECONOMICS

1. Literature for Children.—This course is designed for teachers, librarians, parents, social workers, and writers for children. It aims (1) to give a survey of the field of literature for children; (2) to get at the principles underlying the selection of such literature; (3) to deal concretely and practically with certain problems of selection. It attempts to organize and to give new meaning to the mass of literature already read by the student as well as to direct his study along new lines. The course is equivalent to course 31 in residence and deals with the following topics: (1) the young child and the book; (2) the adolescent and the book; (3) institutional factors, as: relation between school and library, Sunday school, the home; (4) the psychology and the hygiene of reading; (5) tested and graded lists of books through the twelve grades of school; (6) historical survey of books for children in America; (7) influence of England, France, and Germany on literature for children; (8) qualities and form, as: simplicity of plot, rapidity of style, narration, drama, etc.; (9) selected classics as literature for children: *Iliad*, *Odyssey*, *Nibelungenlied*, *Morte D'Arthur*, *Roland*, *Aesop's Fables*, *Arabian Nights*, *Don Quixote*, *Shakspeare's Plays*, *Robinson Crusoe*, *Pilgrim's Progress*, *Gulliver's Travels*, *Alice in Wonderland*; (10) *Mother Goose*, the fairy tale, the

ballad; (11) poetry for the young; principles of selection; (12) oral interpretation and reading of literature; (13) The Bible; (14) notable fiction; (15) scientific books; the book as a tool; (16) dramatic instinct; Shakspeare for the young; (17) illustrated books for children. The books used in the course are to be found in ordinary public libraries; the pamphlets and lists can be procured at small cost. A few reproduced pages from old and rare children's books will be furnished. For those interested in building up a children's library both the most expensive and also the cheaper editions will be indicated. Mj. MISS BLACK.

LIBRARY SCIENCE

1. Technical Methods of Library Science.—This is an elementary course designed especially for those who are already in library positions, and are unable to leave for resident study. It deals chiefly with cataloguing and classification, with a few general lessons on accessioning, shelf-listing, book-binding, gift work, periodicals, and loan systems. It is felt that no library training can be complete without personal familiarity with the "tools" of the profession and modern methods of work. Hence it is hoped that students taking this course will find it possible later on to supplement the work thus begun by resident study at some library school. While credit is not given for correspondence courses in any such school, familiarity with library methods will make residence work easier for the student. As preparation for this course two years of college training or its equivalent is required. Practical experience in library work will count much in the applicant's favor. The course consists of twenty-four lessons. Mj. MISS ROBERTSON.

CLV. AESTHETIC AND INDUSTRIAL EDUCATION

1. Elementary Drawing and Painting.—All teachers would like to be able to draw. Most teachers in the elementary schools are expected to teach drawing. This course aims to present the subject of drawing and painting in such a way that at its completion the student will understand how to teach drawing to children and will also have some dexterity in the art. The degree of skill attained in both will depend somewhat upon natural ability and previous training but neither is demanded by this course. The work is arranged under the following heads: (1) illustrative sketching and drawing; (2) object-drawing; (3) nature-drawing; (4) figure-drawing; (5) animal-drawing; (6) picture-study and out-door sketching. The course discusses the place of drawing in the elementary schools, its relation to other subjects, suitable problems for the various grades and methods of presentation. When completed it gives a fully illustrated course in drawing and painting for elementary schools. Mj. MISS WHITTIER.

2. Elementary Design.—All teachers want to know "How" and "When" to present a subject. All students desire to know "Why" a subject is presented. This course aims to answer the "How," "When," and "Why" of teaching design in the elementary schools. It is planned to meet the needs of kindergartners, grade teachers, art teachers, and all who wish a good working foundation in design. It discusses suitable problems and presents methods of teaching design to children in the elementary schools. It is not primarily a technical course, and previous knowledge of the subject is not essential. The work is presented in the following five groups: (1) printing; (2) units of design; (3) borders and surfaces; (4) color; (5) structure. The number of lessons in each group will vary according to the student's expressed needs, that is the emphasis may be upon methods of teaching, technique, or the history of design. When finished it gives a complete and fully illustrated graded course in elementary or introductory design. Mj. MISS WHITTIER.

3. Advanced and Household Design.—This course presents the subject by means of theory and practice simplified to meet the problem of the average citizen of average income and undertakes to stimulate and develop super-average aesthetic comprehension and power. It presents the principles underlying the use of color, and of structure and decorative design, and calls for sufficient illustration

to insure a clear understanding of the basis for judgment. It discusses practical and aesthetic values regarding the home, exterior and interior, and in a general way, civic environment and historic types. Teachers interested in upper-grade and high-school drawing should consider the possibilities for broader interpretation and application to life needs in the subject of Household Design. The technical work includes sufficient practice in drawing and construction to enable the student to record ideas. Mj. MISS WHITTIER AND MISS CLARK.

4. Costume Design.—This course is planned for upper-grade and high-school work and gives a good working knowledge of the fine qualities in raiment which express in best terms the superior mental and physical character of individuals. It establishes standards for judging and presenting the principles underlying drawing, structural design and color in their direct and corrective application to costume. It discusses the place and contribution of the subject to the individual, the problem of fashion, and historic types, using these as contributive material to originality of conception. The technical work includes sufficient practice in drawing for the expression of ideas and to help graphic memory. Mj. MISS WHITTIER AND MISS CLARK.

DRAWING

An introductory course—Freehand Drawing—and three series of courses: A. Mechanical Drawing, B. Architectural Drawing, C. Descriptive Geometry afford opportunity to begin the study of drawing, and to continue it to a point where knowledge of higher mathematics—e.g., calculus, mechanics, etc.—conditions further progress. "Freehand Drawing" with any one of the series offers what is usually done in the first two years in the best technological schools. While open to anyone they will appeal especially to those who wish thorough training in the fundamentals of the science, whether for immediate practical purposes in the office, shop, or classroom, or as a preparation for Mechanical, Electrical, and Civil Engineering, or for Architectural Drawing.

One may take any major in any one of the three series for which he is prepared, though in most cases it will be found advisable, if not necessary, to begin with the first major. Admission to any major except the first one of a series, is conditioned upon the approval of the instructor, who will base his decision upon a statement and exhibit of previous work. The University reserves the right to retain one drawing from the student's set in each major, and to determine whether admission or college credit shall be allowed.

The materials required in any major will be sent, express collect, upon receipt of the amount given, which is the lowest that can be quoted for a good quality. The weight of the case and the price of the textbook will enable the student to determine the exact cost of each major.

Material required in "Freehand Drawing."—Six sheets of Whatman's cold-pressed paper, 22×30 inches; 8 sheets of chalk-talk paper, 14×20 inches; 3 Koh-i-noor pencils, 3H; 1 pencil eraser, No. 211; 1 dozen thumb tacks, steel-stamped, $\frac{3}{8}$ inch diameter; 1 box of French charcoal; 1 bottle of fixatif, two-ounce; 1 tin atomizer; 1 box "Star" chalks, six assorted colors; 1 drawing-board, 18×24 inches; and models of different solids.

Material required in courses A 1, 2, 3, 4, 5; B 2, 3, 4, 5; and C 1, 2, 3, 4.—One drawing-board, 18×24 inches; 1 set, drawing instruments in folding pocketbook style case, No. 422; 1 T-square, mahogany, ebony-lined fixed head, 24 inches; 1 amber triangle, 45°, 8 inches; 1 amber triangle, 30°×60°, 10 inches; 1 triangular boxwood rule, architect's 12 inches; 1 flat boxwood scale, 6 inches, divided $\frac{1}{16}$ and $\frac{1}{32}$; 1 French amber curve, No. 1; 1 dozen sheets of Whatman's hot-pressed paper, 22×30 inches; 6 Koh-i-noor pencils, assorted, 3H and 6H; 1 bottle each of Higgins' carmine, black, and blue ink; 1 dozen thumb tacks, steel-stamped, $\frac{3}{8}$ inches diameter; 1 Faber's pencil-eraser, No. 211; 1 Faber's ink-eraser, No. 2604; 1 Hardtmuth's soft pliable rubber, No. 12; 1 file, 4 inches; 1 pen-holder; 3 ball-pointed pens.

Freehand Drawing.—A course preparatory to each of the series described below except the second, in which it is required. It gives that thorough training

of the eye and hand which is so necessary in all work requiring accuracy in observation and measurement. While this is primarily its purpose, the course offers the work required in most of the public schools of the country preparatory to teaching Freehand Drawing. Although it does not deal with the pedagogy of the subject it provides a practical and pedagogically correct working basis in this subject, and can be recommended, therefore, to all grade teachers, and to others who are expected to teach Freehand Drawing in connection with their special work. The course embraces the following divisions: (a) *Freehand Projection*—to familiarize the student with the various views of an object and their proper arrangement upon the sheet, by which all the facts of size, form, and proportion are shown, together with perspective sketches of the object, 6 drawings; (b) *Model Drawing of Type-Forms*—outline sketching in perspective, of the cube, cylinder, and other geometrical solids, introducing the principles of perspective as applied to small objects, 6 drawings; (c) *Model Drawing, Groups*—outline drawings of solids and other objects to teach composition and perspective, 6 drawings; (d) *Light and Shade*—pencil studies of the type solids and original groups of objects, to give practice in obtaining quick effects in black and white, 6 drawings; (e) *Color Work*—color studies with chalks, to teach an appreciation of surface, texture, and the proper juxtaposition of colors as applied to groups of objects, 6 drawings; (f) *Pen and Ink Studies* of single objects and original groups, involving outline, light and shade, texture, surface, etc., 6 drawings; in all 36 drawings. No textbook is required. Cost of materials ready for shipment, \$3; weight of package, 18 pounds. Mj. MR. FERSON.

A. Mechanical Drawing.—

1. *Projective Geometry*.—(a) Preparatory work: this will include the use of instruments, laying out, penciling, inking-in, lettering; with practice work to learn accuracy of measurement and of line, 3 drawings. (b) Graphic geometry; this is intended to give the student a mastery of the various geometrical constructions which form the basis of all work in projection, descriptive geometry, and constructive drawing, whether mechanical or architectural, and at the same time to give facility in the use of the instruments, 6 drawings. (c) Projection: this will include the projection of points, lines, planes, and solids, 6 drawings; in all, 15 drawings. Textbook: Linus Faunce's *Mechanical Drawing*, \$1.35. Cost of materials ready for shipment, \$15; weight of package, 18 pounds. Mj. MR. FERSON.

2. *Constructive Drawing*.—(a) Intersections, including conic sections, oblique sections, intersections, and developments, 6 drawings. (b) Shadows: the first angle projection of shadows, 3 drawings. (c) Isometric projections with projections of shadow, 3 drawings. (d) Oblique or cabinet projection, 3 drawings; in all, 15 drawings. Textbook and equipment for this course same as for A 1. Prerequisite: course A 1. Mj. MR. FERSON.

3. *Machine Details*.—This course is intended to familiarize the student with the various parts of machines that have come to be recognized as standards, and which are used in the construction of new machines. Standard sections for materials, fastenings, couplings, bearings, engine details, etc., 10 drawings. Textbook: Low and Bevis' *Manual of Machine Drawing and Design*, postpaid, \$2.50. The equipment for A 1 will suffice for this course also. Prerequisite: course A 2. Mj. MR. FERSON.

4. *Gear Construction*.—Spur-gears, bevel, spiral, worm, elliptic, involute and cycloid teeth, hubs, arms, rims, etc., 10 drawings. Textbook: George B. Grant's *Teeth of Gears*, postpaid, \$1.10; equipment, same as for A 1. Prerequisite: course A 3. Mj. MR. FERSON.

5. *Shop Drawing*.—(a) Machines from freehand sketches and measurement—details and an assembled drawing of some piece of machinery; (b) tracing and blue-printing. Five drawings with their tracings and blueprints will be accepted for this course; in all, 15 sheets. No textbook is required; equipment, same as for A 1. Prerequisite: course A 4. Mj. MR. FERSON.

B. Architectural Drawing.—This series gives the student a good working knowledge of the essentials in architecture; history, the orders, the principles of the designing of dwelling houses, office work in rendering, perspective, and detailing, together with tracing and blue-printing. As the success of the student in architecture is so completely dependent upon his knowledge of, and practice in, all the departments of freehand drawing and sketching, it is absolutely essential that the introductory major, "Freehand Drawing," should be taken first, so it is made the first major of the series.

1. *Freehand Drawing.*—Mj. MR. FERSON.

2. *Projective Geometry.*—Same as A 1. Mj. MR. FERSON.

3. *Constructive Drawing.*—Same as A 2. Mj. MR. FERSON.

4. *Architectural Details.*—(a) "The Orders," 10 drawings; (b) details of architectural construction from measurements, 2 drawings; in all, 12 drawings. Textbooks: Hamlin's *Architectural History*, postpaid, \$1.75; and Ware's *American Vignola*, Part I. "The Orders," postpaid, \$2.50. Equipment for this course, same as for A 2. Prerequisite: course B 3. Mj. MR. FERSON.

5. *Architectural Design.*—(a) Domestic plans, from copy, 4 drawings; (b) design of some small building, 4 drawings; (c) tracings and blueprints, 4 tracings with their prints, 8 sheets; in all, 16 drawings. No textbook is required. Equipment, same as for A 1. Prerequisite: course B 4. Mj. MR. FERSON.

6. *Pictorial Architecture.*—(a) Architectural perspective, 3 drawings; (b) architectural rendering in pen and ink, 4 drawings; (c) rendering in color and wash, 4 drawings; in all, 11 drawings. Textbooks to be designated. Equipment, same as for A 1. (In preparation.) Prerequisite: course B 5. Mj. MR. FERSON.

C. Descriptive Geometry.—This series is for those who wish to go into the higher mathematics, but have had no training in the graphic side of the subject. It will consist of:

1. *Projective Geometry.*—Same as A 1. Mj. MR. FERSON.

2. *Constructive Drawing.*—Same as A 2. Mj. MR. FERSON.

3. *Theoretical Graphics.*—Problems in points, lines, planes, and straight-surfaced solids; 15 drawings. Textbook: Church's *Descriptive Geometry*, postpaid, \$2.65; equipment, same as for A 1. Mj. MR. FERSON.

4. *Practical Graphics.*—Curved and warped surfaces, shades and shadows, developments; 15 drawings. Textbook: same as for C 3; equipment, same as for A 1. Mj. MR. FERSON.

VII. COMPARATIVE RELIGION

1. **Introduction to the History of Religion.**—This course is elementary in character and aims to conduct the student into the study of the general principles of religion and to outline the history of the various religions of the world. Mj. DR. CONARD.

2. **The Religion of Uncivilized Peoples.**—This course surveys primitive religious customs and beliefs, noting their survivals in higher religions. The first part of the course consists of a general study of the religion of uncivilized peoples. In the second part a special study is made of the religion of the North American Indians, or of some other uncivilized people, concerning whom material is available to the student. Mj. DR. CONARD.

3. **Comparative Theology: The Idea of God.**—This is a cursory study of the idea of God as seen in primitive myth and cult, and in the religious rites and literature of the chief historic religions. Prerequisite: course 1 or 2 or an equivalent. Mj. DR. CONARD.

4. **The Religions of India.**—The aim of this course is to give a brief outline of the mythology and religion of the *Vedas* and an account of the three great Hindu religions—Brahmanism, Buddhism, and Hinduism. A knowledge of these is absolutely essential to the student of comparative religion. Mj. DR. CLARK.

XLI. OLD TESTAMENT LITERATURE AND INTERPRETATION

AND

VIII. SEMITIC LANGUAGES AND LITERATURES

1. Outline of Hebrew History.—A survey study of the history of the Hebrew people as presented in the Old Testament from the period of the Conquest and establishment in Canaan to the Maccabean struggle and the close of Old Testament history. The course embraces a preliminary sketch of the patriarchal period, with a more detailed study of the Conquest, the period of the Judges, the United and Divided Kingdoms, the Exile, the revival of Judah, and the beginnings of Judaism. The bearings of prophetic activity upon the history and literature also receive consideration. Mj. ASSOCIATE PROFESSOR J. M. P. SMITH.

2. An Introduction to the Old Testament.—This study emphasizes such points as will familiarize one with the outline features of this portion of the Bible. It describes: (1) The method of preserving ancient records, (2) the method of compiling and editing those documents; (3) the historical background of the Old Testament books; (4) the literary character of each book; (5) its chief doctrinal teachings; (6) its place in the scheme of biblical revelation; and (7) the best literature with which to pursue and solve its problems. The work is planned on a practical basis, and aims to give students a reasonably complete idea of the new and real advances that have been made in the last few decades in the understanding of the Old Testament. Mj. PROFESSOR PRICE.

3. Old Testament Prophecy.—The purpose of this course is to aid in securing a better understanding of the rise and development of prophecy in Israel. Some of the more important matters to be considered are: (1) the controlling ideas in the teaching of each of the great prophets; (2) the relation of the prophet and his work to the political and social movements of his day; (3) the attitude of the prophet toward the priest and priestly institutions; (4) the place of prophecy in the preparation for the work of Christ. Mj. ASSOCIATE PROFESSOR J. M. P. SMITH.

4. Old Testament Worship.—A study of the element of worship and the institutions and literature connected with worship in the Old Testament. Special consideration will be given to such topics as: (1) the priest; (2) place of worship; (3) sacrifice; (4) feasts; (5) tithes; (6) clean and unclean, etc.; (7) the origin and character of the Sabbath; (8) the date and character of Deuteronomy; (9) the origin of the Levitical legislation; (10) the composition of the Hexateuch. Attention will be given to the characteristic ideas of the priest as distinguished from those of the prophet, and to the growth of priestly influence in Israel's religious life. Mj. ASSOCIATE PROFESSOR J. M. P. SMITH.

5. Elementary Hebrew.—Includes the mastery of the Hebrew of Genesis, chaps. 1-3; the study of the most important principles of the language in connection with these chapters; Hebrew grammar, including the strong verb and seven classes of weak verbs; and the acquisition of a vocabulary of four hundred words. Mj. ASSOCIATE PROFESSOR J. M. P. SMITH.

6. Intermediate Hebrew.—Includes the critical study of Genesis, chaps. 4-8, with a review of Genesis, chaps. 1-3; the more rapid reading of fourteen chapters in I Samuel, Ruth, and Jonah; the completion of the outlines of Hebrew grammar and an increase of vocabulary to eight hundred words. Mj. ASSOCIATE PROFESSOR J. M. P. SMITH.

7. Exodus and Hebrew Grammar.—Includes the critical study and translation of Exodus, chaps. 1-24; a more detailed study of Hebrew grammar; an inductive study of Hebrew syntax; and the memorizing of three hundred additional words and of several familiar psalms in Hebrew. Mj. ASSOCIATE PROFESSOR J. M. P. SMITH.

8. Haggai, Zechariah, and Malachi.—A course of twenty recitations, including the critical and exegetical study of these books; the lexicographical study of

two hundred important words; the principles of Hebrew prophecy; a study of Hebrew syntax, especially the subjects of the tense and sentence; the Hebrew accentuation; and the memorizing of about eight hundred words. M. ASSOCIATE PROFESSOR J. M. P. SMITH.

9. Elementary Arabic.—An inductive study of the elementary principles of Arabic grammar. The Arabic grammar of Socin together with the exercises and stories contained therein furnish the basis of the work. Mj. DR. LUCKENBILL.

10. Elementary Assyrian.—The cuneiform text as well as the transliteration is used from the beginning. The student learns the most common cuneiform signs, the strong verb and all classes of weak verbs, and the fundamental principles of the language. A knowledge of Hebrew is prerequisite. M. PROFESSOR BERRY.

11. Intermediate Assyrian.—This includes the reading of several hundred lines of historical cuneiform text, with special attention to vocabulary, a further study of Assyrian grammar, including syntax, and the learning of most of the remaining cuneiform signs that are in frequent use. M. PROFESSOR BERRY.

12. Elementary Egyptian.—Study of (1) the speech of Thutmosis I to the priests of Abydos; (2) the romance of Sinuhe (transliterated from the Hieratic) in Erman's *Chrestomathy*. It includes the acquisition of the commonest signs, and the grammatical principles of the language of the classic period. Mj. PROFESSOR BREASTED.

Members of the Semitic Department will endeavor to arrange informal courses for students who are prepared to do work of an advanced nature, whenever practicable.

NOTE.—Related courses will be found under Departmental Nos. IV, VII, XVI.

XLII. NEW TESTAMENT LITERATURE AND INTERPRETATION

AND

IX. BIBLICAL AND PATRISTIC GREEK

1. Jewish History in the Time of Jesus.—The Jewish people in the Roman Empire; geography, population, and languages of Palestine; influence of Hellenism; political events and parties; industrial, social, and intellectual life; religious groups and institutions; moral and religious ideas—an introduction to the study of the life and teaching of Jesus. This course corresponds in general to course 1 in residence, which is required of candidates for the D.B. degree. Mj. ASSOCIATE PROFESSOR VOTAW.

2. Life of Jesus.—A comprehensive and systematic historical study of Jesus' purpose, method, message, deeds, and personality, in general aspects. The forty lessons include such topics as: the Characteristics of the Gospels as Historical Sources, Jewish Messianism, Jesus' Aim and Method in His Ministry, the Parables, the Miracles, the Christology of the Gospels, and the Historical Significance of Jesus. The course constitutes an introduction to the study of the Teaching of Jesus. A knowledge of New Testament Greek is not required, but is valuable. To accommodate two well-defined types of students the course is presented in two grades; in its simple form it corresponds in general to the college course New Testament 6; in its advanced form to the graduate course New Testament 5. Mj. ASSOCIATE PROFESSOR VOTAW.

3. The Teaching of Jesus.—The four gospels will be investigated as to their origin, characteristics, trustworthiness, and the manner of their use for ascertaining the teaching of Jesus. The chief ideas and characteristics of Judaism in Jesus' day will be studied as the historical background to his teaching; also the development of Jesus' own religious experience and ideas, and the aim, limits, style, and method of his teaching. Then will follow topically a comprehensive, careful study of the content of Jesus' teaching. Mj. ASSOCIATE PROFESSOR VOTAW.

4. History of the Apostolic Age.—This course, corresponding to course 8 in residence, covers the history of Christianity from Jesus' death to the end of the first century. Among the more important topics studied are: (1) the experiences of the primitive Christians at Jerusalem; (2) the beginnings of missions; (3) the relations between Judaism and Christianity; (4) the missionary work of Paul; (5) Christianity's contact with the religions of the Graeco-Roman world; (6) the growth of church ritual and organization; (7) the origin and content of early Christian doctrines; (8) the rise of Christian literature. Mj. ASSOCIATE PROFESSOR CASE.

5. Introduction to the Books of the New Testament.—

A. Life of the Apostle Paul and Introduction to the Pauline Epistles.—The work in this course is done on the basis of a handbook, containing an outline of the life of Paul, topics for special study, with references to literature, and a brief introduction to the epistles. The aim is to prepare the student for the interpretation of the letters of Paul and for an understanding of his personality and theology. Mj.

B. Introduction to the Gospels, Acts, and General Epistles.—Includes the study of the occasion and purpose of each book and its general content and structure. Mj. PROFESSOR BURTON AND DR. BAILEY.

6. The Ethical Teaching of the New Testament.—The moral ideal of Jesus is to be studied on the basis of the Sermon on the Mount, supplemented by material from other portions of the gospels. The specific principles set forth by Jesus, and the application which he made of them to his own life and to the conduct of others, will be interpreted. Similarly, the moral ideal of Paul, with its principles and applications, will be considered. Finally, there is a comparison and summary of the whole ethical teaching of the New Testament. Mj. ASSOCIATE PROFESSOR VOTAW.

7. Elementary New Testament Greek.—A course for beginners, presupposing no knowledge of Greek. It aims to secure, by an inductive study, the absolute mastery of chaps. 1-4 of the Gospel of John, and the essential facts and principles of the language. Emphasis is placed upon the writing of exercises in Greek. Mj. DR. BAILEY.

8. Intermediate New Testament Greek.—This course is designed for those who have completed course 9, and for those who wish to review their Greek in connection with the New Testament. It comprises the thorough study of the entire Gospel of John, and the reading at sight of the First Epistle of John; also the acquisition of vocabulary and the most general principles of grammar. One who has diligently worked through this course should be able, with the aid of the lexicon, to read with comparative ease the New Testament. Mj. DR. BAILEY.

9. The Greek of the New Testament.—Using the Gospel of Mark, a thorough study is made of the syntax of New Testament Greek. The course corresponds to course 41 in residence and is recommended for the D.B. degree. Prerequisite: courses 7 and 8 or equivalent instruction in classical Greek. Mj. ASSOCIATE PROFESSOR VOTAW.

10. The Apostolic Fathers.—The course includes a study of (1) the early Christian literature ca. 95-150 A.D.; (2) problems of date, authorship, and purpose; (3) reading of the Greek; and (4) studies in theology and polity. Outlines of the literature will be provided, and reports covering the topics given above will be required. The later development of New Testament ideas and practices, as reflected in this early Christian literature, will be especially emphasized. Mj. ASSOCIATE PROFESSOR GOODSPEED AND DR. ROBISON.

ENGLISH THEOLOGICAL SEMINARY

3B. New Testament Times in Palestine.—(cf. p. 71.) ASSOCIATE PROFESSOR VOTAW.

XLIV. SYSTEMATIC THEOLOGY

1. Outline Course in Systematic Theology.—The course is intended to give a general acquaintance with the field of systematic theology, with especial reference to the problems which are today attracting chief attention. The first half of the course is devoted to a general introduction to the subject; the second half to the content of systematic theology. The contents of textbooks prescribed are to be carefully analyzed and criticized on the basis of questions and topics furnished by the instructor. This study is of real value as a general survey, but does not command credit for the D.B. degree. Mj. PROFESSOR G. B. SMITH.

2. Systematic Theology.—

A. This course discusses the task and method of systematic theology in the light of modern conditions, and sets forth the Christian doctrine of God. It will be accepted as the equivalent of the first prescribed course (Systematic Theology I) for the D.B. degree. Mj.

B. This course covers the doctrines of sin and salvation, and the person and work of Christ. It will be accepted as the equivalent of the second prescribed course (Systematic Theology II) for the D.B. degree. Mj.

C. This course deals with the religious and ethical implications of the Christian experience, including a study of regeneration, of the Christian life and the Christian hope. It will be accepted as the equivalent of the third prescribed course (Systematic Theology III) for the D.B. degree. Mj.
PROFESSOR G. B. SMITH.

3. Christian Ethics.—This course sets forth the moral aspects of the Christian religious experience. The Christian moral ideal is differentiated from the naturalistic theories of ethics set forth by the Greek philosophers and by modern utilitarian and evolutionist schools, and from the theory of supernatural legalism as exhibited in Judaism. The moral motive power of the Christian, and the fundamental canons of moral judgment are discussed, with suggestions as to the method of determining duty in the various fields of human activity. The course thus serves as an introduction to the study of social ethics from the Christian standpoint. Mj. PROFESSOR G. B. SMITH.

4. Apologetics.—This course is intended to acquaint the student with the general outlines of a defense of Christianity. In the first place the content of Christianity which must be defended is sought on the basis of a historical study of the sources and history of Christianity. The ultimate elements of Christian faith are then defined and justified in the light of modern thought. Questions and topics suggested by the required textbooks are to be discussed in written papers by the student. Prerequisite: course 2, or an equivalent. Mj. PROFESSOR G. B. SMITH.

5. The Theological Significance of Leading Movements of Thought in the Nineteenth Century.—The philosophy of Kant and of Hegel, the theological principles of Schleiermacher and of Ritschl, the development of biblical criticism, the growing influence of natural science, the rise of the philosophy of evolution, and the significance of the Pragmatist movement, for an understanding of religion, are the chief topics for study. The problems raised for theology by these movements will be carefully considered. Those taking the course should have access to an adequate library, or should be willing to incur considerable expense for books. Prerequisite: course 4, or its equivalent and a general acquaintance with the history of modern philosophy. (Informal.) DMj. PROFESSOR G. B. SMITH.

ENGLISH THEOLOGICAL SEMINARY

4B. Outline of Systematic Theology (cf. p. 71). PROFESSOR GREENE.

XLV. CHURCH HISTORY

1. Outlines of Church History.—A complete survey of the whole field of church history from the founding of the church in Jerusalem to the present time, with special emphasis upon the Ancient (100–800 A.D.) and Reformation (1517–1648 A.D.) periods. Some of the most important subjects that will come under investigation are: the conflict of the church with heathenism in the Roman empire; the rise and growth of the papacy; heresies, controversies, and parties within the church; the missionary expansion of the western church; the struggle between the papacy and the empire for supremacy; the rise and progress of the Reformation in Germany, France, Switzerland, England, and Scotland; and the recent development of the Protestant churches in Europe and America. Mj. ASSISTANT PROFESSOR GATES.

2. The Protestant Reformation.—Extent and state of Christendom at the opening of the sixteenth century; new forces that sweep away the old order of things; Zwingli, Luther, Calvin, as expressions of the spirit of the new era; estimate of the movement in its relations to the general historic process. Mj. ASSOCIATE PROFESSOR MONCRIEF.

3. The Missionary Enterprise of the Twentieth Century: Principles and Methods.—It is proposed in this course to make an outline study of the principles underlying the present-day Protestant missionary enterprise, and the methods it employs in the light of the experience of the first hundred years of its history. Interest in foreign missions was never before so wide-spread nor criticism of it so keen and intelligent. The time is approaching for the construction of a science of missions. Large accumulations of material in the form of the reports of missionary societies and conferences, biographies, and correspondence are available. All pastors and Sunday-school teachers, all persons, men or women, responsible for the missionary activities of the church and in particular all candidates for foreign missionary service should find this study profitable. Mj. PROFESSOR PARKER.

XLVI. PRACTICAL THEOLOGY

1. The Theory of Preaching.—This course corresponds to residence course 1 and embraces a study of the character and purpose of the sermon, the methods of preparation, and the manner of delivery. The laws of effective popular discourse are studied inductively in connection with the preparation of sermons by the student. Mj. PROFESSOR SOARES.

2. Survey Course in Religious Education.—An endeavor will be made to acquaint the student with the very significant field of religious education now receiving so much attention from all thoughtful workers in church and in general educational lines. In doing this an outline study of child development and the child's religious interests; the social agencies of religious education, such as the home, public school, and library; and the underlying principles of modern education in their relation to religious education will be discussed. Special attention will be given to the Sunday school, its equipment, administration, properly graded curriculum, the training of its teachers, and its expressional activities. Instruction will be by means of textbooks, topics for special study, reports on local observation of Sunday schools, and questions. The course is intended for pastors, Sunday-school superintendents and lay workers, and will be adapted to the needs of the individual student. Anyone who has had high-school training can follow the course with profit, but additional work and "Elementary Psychology" as a prerequisite will be required of those who wish University credit for the course. Mj. PROFESSOR SOARES AND DR. EVANS.

NOTE.—Related courses will be found under Departmental Nos. I A, I B, VI, VII.

ENGLISH THEOLOGICAL SEMINARY

1B. Homiletics (cf. p. 71).—PROFESSOR GREENE.

2B. Outline Course on Pastoral Duties (cf. p. 71).—PROFESSOR GREENE.

VII. THE ENGLISH THEOLOGICAL SEMINARY

I. GENERAL INFORMATION

The English Theological Seminary of the University of Chicago is intended to meet the needs of students who have not had the advantages of a college education and is open to all denominations of Christians. The applicant must present a ministerial license, or a certificate of ordination, or a statement from the church of which he is a member, approving of his purpose of devoting himself to the Christian ministry or other Christian service. He must also furnish the University, when requested, information concerning his church relations, etc. He will pay the University matriculation fee, \$5, once, and \$3 for each English Theological Seminary course chosen. The reinstatement fee for each of these courses is \$2.

II. COURSES OF INSTRUCTION

NOTE.—No credit toward any degree is allowed for these courses. They count only toward the English Theological Seminary certificate. A description of any of the following courses will be sent on application.

1B. Homiletics.—Mj. PROFESSOR GREENE.

2B. Outline Course on Pastoral Duties.—Mj. PROFESSOR GREENE.

3B. New Testament Times in Palestine.—Mj. ASSOCIATE PROFESSOR VOTAW.

4B. Outline of Systematic Theology.—Mj. PROFESSOR GREENE.

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EDWARD JAMES MOORE, A.M., Ph.D., Extension Assistant Professor of Physics.
HERMON HARRISON SEVERN, A.B., Extension Assistant Professor of New Testament Literature.

WILBERT LESTER CARR, A.M., Instructor in Latin in the University High School.
FRANK BARNES CHERINGTON, A.B., Instructor in English in the University High School.
WALTER EUGENE CLARK, Ph.D., Instructor in Sanskrit and Indo-European Comparative Philology.
GEORGE DAMON FULLER, Ph.D., Instructor in Plant Ecology.
CARL HENRY GRABO, Ph.B., Instructor in English.
AGNES KEITH HANNA, Instructor in Home Economics and Household Art.
PAUL GUSTAV HEINEMANN, Ph.D., Instructor in Bacteriology.
BERTHA HENDERSON, S.B., Instructor in Geography.
JAMES ROOT HULBERT, Ph.D., Instructor in English.
MARY JEAN LANIER, S.B., Instructor in Geography.
DANIEL DAVID LUCKENBILL, Ph.D., Instructor in Semitics.
SARAH FRANCES PELLETT, A.M., Instructor in Latin in the University High School.
PAUL HERMAN PHILLIPSON, Ph.D., Instructor in German.
LEMUEL CHARLES RAIFORD, Ph.D., Instructor in Chemistry.
JOSEPHINE CHESTER ROBERTSON, A.B., Head Cataloguer in the Libraries.
HARRY FLETCHER SCOTT, A.M., Instructor in Latin in the University High School.
VICTOR ERNEST SHELFORD, Ph.D., Instructor in Zoölogy.

ROLLA MILTON TRYON, A.M., Instructor in the Method of Teaching History.
 AMY RACHEL WHITTIER, Instructor in Design.
 ELSIE AMY WYGANT, Instructor in Education.

MYRON LUCIUS ASHLEY, PH.D., Extension Instructor in Philosophy.
 MABEL BANTA BEESON, A.M., Extension Instructor in Latin.
 LAETITIA MOON CONARD, PH.D., Extension Instructor in Comparative Religion.
 KATHARINE ELIZABETH DOPP, PH.D., Extension Instructor in Education.
 EARL BIXBY FERSON, Extension Instructor in Drawing.
 JOHN SHARPLESS FOX, PH.D., Extension Instructor in History.
 SAMUEL NORTHRUP HARPER, A.B., Extension Instructor in the Russian Language and Literature.
 CLIFTON DURANT HOWE, PH.D., Extension Instructor in Botany.
 HENRY FREMONT KEEN, Extension Instructor in Accounting.
 HENRIETTA BECKER VON KLENZE, PH.D., Extension Instructor in German.
 DANIEL PETER MACMILLAN, PH.D., Extension Instructor in Psychology.
 ALICE HARVEY PUTNAM, Extension Instructor in Education.
 EMMA SCHRADER, PH.M., Extension Instructor in General Literature.
 ERNEST LYNN TALBERT, PH.D., Extension Instructor in Psychology.

JESSIE E. BLACK, PH.B., Extension Associate in School Library Economics.
 RUTH RAYMOND, Extension Associate in Home Economics.
 YINCHANG TSENSHAN WANG, A.B., Extension Associate in Chinese.

SOPHIA HENNION ECKERSON, PH.D., Assistant in Plant Physiology.
 KATHERINE GRAHAM, Assistant in English.
 ROY BATCHELDER NELSON, A.B., Assistant in Greek.
 EUGENE AUSTIN STEPHENSON, S.B., Assistant in Geology.

CATHERINE QUARLES BASKERVILL, A.B., Extension Assistant in English.
 LOUISE CLARK, Extension Assistant in Design.
 ELDON COBB EVANS, A.M., Extension Assistant in Political Science.
 EDWARD ATWOOD HENRY, D.B., Extension Assistant in the Old Testament Language and Literature.
 FRANCES LUCY SWAIN, A.M., Extension Assistant in Household Administration.

III. GENERAL INFORMATION

Extra-Mural Teaching.—All non-resident work for credit is conducted through the Correspondence-Study Department.

1. Teaching by Correspondence.—Experience has shown that many subjects can be taught successfully by correspondence. *Direction* and *correction* can often be given as effectively in writing as by word of mouth. Obviously self-reliance, initiative, perseverance, accuracy, and kindred qualities are peculiarly encouraged and developed by this method of instruction.

2. Purpose and Constituency.—Through the Correspondence-Study Department the University endeavors to offer as many as possible of the courses given in the classrooms of its different divisions so that those whose formal schooling

has been interrupted may continue their studies. Besides contributing to culture, many of the courses, because of their bearing on problems of everyday life, may be turned to immediate practical account. One may choose any course or courses for which he is prepared and begin at any time. The aim is to offer to anyone anywhere the opportunity of securing helpful and stimulating instruction from specialists.

The work appeals, therefore, to the following classes: (1) students preparing for college or professional schools; (2) college students who are unable to pursue continuous resident study; (3) grammar and high-school teachers who cannot avail themselves of resident instruction; (4) teachers and others who have had a partial college course and wish to work along some special line; (5) instructors in higher institutions who desire assistance in the advanced study of some subject; (6) professional and business men who wish to supplement their training; (7) ministers and Bible students who would fit themselves better to use the Scriptures; (8) parents uncertain how to deal wisely with their children; in short, all who desire a broader knowledge or a more thorough scholarship.

3. Method of Instruction.—Each correspondence course is designed to be equivalent to the corresponding residence course, and contains therefore a definite amount of work. A **Major** (Mj.) calls for an amount of work which a student in residence would be expected to accomplish in twelve weeks, reciting five hours per week. A **Minor** (M.) calls for one-half as much work as a Major. The resident student who does full work completes three Majors every three months, but the correspondence student is allowed from twelve to fifteen months, according as he registers late or early in the quarter (or, if extension of time is granted, from twenty-four to twenty-seven months), for completing whatever number of Major or Minor courses he applies for (cf. § 6, *e* and *g*). On the other hand, he is permitted to finish courses as rapidly as is consistent with good work. Courses are of two kinds, formal and informal.

a) The *formal* course furnishes a systematic and progressive presentation of the subject in a given number of lessons (cf. § 6, *o*). Each lesson contains: (1) full directions for study, including references to the textbooks by chapter and page; (2) necessary suggestions and assistance; (3) questions to test the student's methods of work as well as his understanding of the ground covered. After preparing for recitation the student writes his answers to the questions and mails them to the instructor, together with any difficulties which may have arisen during his study. This recitation paper is promptly corrected and returned. In like manner every lesson is carefully criticized by the instructor and returned, so that each student receives *personal guidance and instruction* throughout the course.

b) The *informal* course is designed for students who are pursuing studies of an advanced nature. The course is usually arranged between instructor and student to meet the particular needs of the latter. The formal lesson sheet is dispensed with, but the course is carefully outlined by the instructor, and the student is required to present satisfactory evidence that the work is being properly done. This evidence may consist of a number of short papers on special themes, a thesis covering the whole work, or it may partake rather of the nature of ordinary correspondence.

Courses are *formal* when not otherwise indicated.

4. Admission.¹—(a) No preliminary examination or proof of previous work is required of applicants for correspondence courses. Before matriculating or registering a student, however, the University does require certain information and reserves the right to reject applicants, or to recommend other courses than those chosen, if the data furnished on the application blank justify such action. If the applicant is rejected, or the substitution recommended is not accepted by the student, all fees are refunded. The application blank will be supplied upon request. *In every case it should accompany the fee for a new course.*

b) A correspondence student whose standing in one of the Colleges or Schools of the University has not been definitely determined is ranked as an *unclassified student*.

5. Recognition for Work.—(a) A certificate is granted for the satisfactory completion of the recitation work in any Major or Minor course.

b) Admission credit is given for courses covering college-entrance requirements, which are satisfactorily completed and passed by examination.

c) College credit is given for courses of a college grade satisfactorily completed and passed by examination (cf. § 6, b, 1).

d) If the student has a record of residence work in the University, credit gained through correspondence courses is immediately transferred to that record; if not, it is held in the Correspondence-Study Department until the student secures such a record.

e) See also Regulations a) and b).

6. Regulations.—(a) The University of Chicago grants no degree for work done wholly in absence. A *minimum* of nine Majors (three full quarters) in residence at the University of Chicago is required of everyone upon whom any degree save the Master's (cf. § 6, b, 3) is conferred.

b) Correspondence courses are applicable to the study requirement for the different degrees as follows: (1) The candidate for a Bachelor's degree (A.B., Ph.B., or S.B.) may do eighteen of the required thirty-six majors of college work by correspondence. (2) The candidate for the medical degree (M.D.) may not reduce the *period* (thirty-six months) of resident study required for this degree by means of correspondence courses. (3) The candidate for the Master's degree (A.M. or S.M.) may not offer correspondence work for any of that required for it, inasmuch as the maximum resident time and study requirement for this degree does not exceed the minimum requirement (nine months and nine majors) for any degree. (4) The candidate for the Doctor's degree (Ph.D.) may substitute correspondence for residence work *only* on approval, in advance, of the Head of the Department in which his work lies. Three years of resident graduate study are required for this degree. Very few non-resident students command the necessary library or laboratory facilities for graduate study.

NOTE.—The University of Chicago's Bachelor degree, or its full equivalent, is prerequisite for admission to candidacy for a Master's or Doctor's degree. If a student presents a degree inferior by less than nine (9) Majors he can make it equal to the University degree by means of correspondence courses and thus be free to devote his entire time in residence to graduate work (cf. § 6, a).

c) A student may begin a correspondence course any time in the year.

d) An undergraduate student may not carry on correspondence work while in residence without the written permission of his Dean.

¹ If the student later comes to the University, he must satisfy admission requirements (see *Circular of Information of the Colleges*, pp. 14 ff.).

e) A student will be expected to complete any course or courses *within one year from the end* (i.e., March 23, June 23, September 23, December 23) of the quarter in which he registers.

f) A student who, for any reason, does not report either by lesson or by letter within a period of ninety days may thereby forfeit his right to further instruction in the course.

g) Extension of time will be granted: (1) *for a period equal to the length of time which a correspondence student spends in resident study at the University of Chicago*, providing due notice is given the secretary and the instructor at both the beginning and the end of such resident study; (2) *for one full year from the date of expiration of the course*, if, on account of sickness or other serious disability, the student has been unable to complete the course or courses within the prescribed time (cf. § 6, e), providing (a) he secures the consent of the secretary and his instructor, and (b) pays \$4 for each Major course or \$2 for each Minor course he wishes to continue. Private arrangement for extension of time between the student and his instructor cannot be recognized by the Department.

h) In order to secure credit for a correspondence course, the student must pass an examination on it within six months from the end of the quarter in which he finishes the recitation work, either at the University or, if elsewhere, under supervision which has been approved by the University.

i) During an instructor's vacation a substitute will be provided, or the time for completing the course will be extended.

j) The fee for matriculation in the University (\$5) is required once, at the time of first registration, of each one who has not matriculated in the institution either as a residence or a correspondence student. The fee is general for the whole University.

k) The matriculation fee will not be refunded to a student whose application has been accepted (cf. § 4, a).

l) The tuition fee will not be refunded on account of a student's inability to enter upon or continue a course.

m) The student must forward, with each lesson, postage (or, preferably, a stamped, self-directed envelope) for its return.

n) A student will be required to pay for but one Major of a Double Major (DMj.) course at a time, unless he applies for both Majors.

o) Ordinarily, a Major consists of forty and a Minor of twenty lessons; but there may be variations from this number in order to accommodate the work to the requirements of a particular course. Each course represents a definite amount of work (cf. § 3), the number of lessons into which it is divided being incidental.

p) A course announced as a Major may not be taken a Minor at a time.

q) Each correspondence course is equivalent to the corresponding residence course, and commands credit (cf. § 5) unless definite statement is made to the contrary.

r) All informal courses are Majors unless otherwise indicated.

7. Expenses.—(a) All fees are payable in advance.

b) The matriculation fee is \$5 (cf. § 6, j); the tuition fee for *each* Minor course is \$8; for one Major course, \$16. If a student registers *at the same time* for two Major courses the tuition fee is \$30; for three Major courses, \$40. No reduction

is made for Minor or Review courses included in a combination. A student registering for English Theological Seminary courses will pay the matriculation fee, \$5, and \$3 for each course taken. The tuition fee includes payment for the instruction sheets received. Textbooks which cannot be borrowed (cf. § 10) must be purchased by the student.

c) The student is required to inclose postage for the return of the lesson-papers (cf. § 6, *m*).

d) Money should be sent in the form of postal or express order or New York or Chicago draft, made payable to the University of Chicago. The Chicago clearing-house charges exchange on all other forms of remittance—15 cents on sums up to \$50.

8. Method of Registration (recapitulated).—(a) File with the secretary of the Correspondence-Study Department a formal application for *each* course desired. The required application blank will be furnished upon request (cf. § 4, *a*).

b) *Forward with the formal application the necessary fees:* (1) \$5 for matriculation, if not matriculated in the University (cf. § 6, *j*); (2) \$8 for each Minor course, or \$16, \$30, or \$40, according as one, two, or three Major courses are applied for; (3) an additional fee for certain courses in the sciences.

9. Scholarships.¹

CLASS A.—Three scholarships, each yielding tuition in residence for one quarter (\$40), are awarded annually on April 1 to the three students who have begun, completed, and passed the *greatest number* of Major correspondence courses (but at least four) that represent new advanced work, with a grade of B or better for each course, during the preceding twelve months. If two or more persons finish the same number of Majors, the scholarships will be awarded to those whose average grade for the courses in question is highest, and in case of a tie here, in the order in which they finish, beginning with the earliest.

CLASS B.—A scholarship yielding tuition in residence for one quarter (\$40) is awarded to a student for *every four* different Major correspondence courses that represent new advanced work, which he has begun since April 1, 1904, completed, and passed with a grade of B or better for each course.

10. Books, etc.—For the convenience of students arrangements have been made with The University of Chicago Press whereby supplies, such as books, maps, etc., which are needed in the different courses can be furnished at prices which will be quoted on application to The Correspondence-Study Department. *In exceptional cases* some of these books may be borrowed from the University Libraries. Applications for loans should be addressed to the Director of the Libraries of the University of Chicago.

IV. THREE PROGRAMS OF HIGH-SCHOOL WORK

The 15 units² of high-school work required for admission to the University must include:

3 units of English.

7 units of subjects in Groups 1–6 (see below), to include *at least* 3 units in a single group and *at least* 2 units in another single group.

5 units of subjects for which credit toward its diploma is given by an approved school.

¹ Scholarships are good for any quarter. Two Minors are equivalent to one Major. English Theological Seminary courses are excluded from competition.

² A unit represents 150 hours of recitation. It is equivalent, as a rule, to two Majors.

To fulfil admission requirements most effectively and to leave the maximum freedom of election in college, the following programs are recommended in preparation for college work leading to the different Bachelor degrees:

A.B.	Units	Ph.B.	Units	S.B.	Units
English.....	3	English.....	3	English.....	3
Greek.....	3	One modern language 3 (or 2)	3	Science.....	3 (or 2)
Latin.....	4	History.....	2 (or 3)	Mathematics.....	2 (or 3)
Mathematics.....	2	Mathematics.....	2	One modern language.....	2
Electives from Groups		Science.....	2	History.....	2
3, 4, and 6.....	3	Electives from Groups 1-6	3	Electives from Groups 1-6.	3
Total.....	15	Total.....	15	Total.....	15

Group 1.—Greek.

Group 2.—Latin.

Group 3.—Modern Languages other than English (French, German, Spanish, Italian).

Group 4.—History, Civics, Economics.

Group 5.—Mathematics.

Group 6.—Science (Physics, Chemistry, Botany, Zoölogy, General Biology, Physiology, Physiography, Geology, Astronomy).

Any combination of the subjects within each group is permitted but not less than $\frac{1}{2}$ unit of any subject may be offered. Not less than 1 unit of Algebra, Plane Geometry, Physics, Chemistry, or a language may be offered. To meet the 2 or the 3 units-in-a-single-group requirement in Groups 1, 2, or 3, the work offered must all be in *one* language.

Correspondence-Study Courses Which Offer High-School Work¹

	Units
Political Economy—"Bookkeeping"	$\frac{1}{2}$
History—"Outline History of Antiquity to 376 A.D." (A and B)	1
"Outline History of Europe" (A and B)	1
"Outline History of England" (A and B)	1
"Outline History of the United States" (A and B)	1
Greek—"Elementary Greek" (A and B)	1
"Xenophon: <i>Anabasis</i> " (A and B)	1
"Homer: <i>Iliad</i> " (A and B)	1
Latin—"Elementary Latin" (A and B)	1
"Caesar: <i>De Bello Gallico</i> " (A, B, and C)	1
"Cicero: <i>Orationes</i> " (A and B)	1
"Vergil: <i>Aeneid</i> " (A and B)	1
French—"Elementary French" (A and B)	1
"Intermediate French" and "Advanced French"	1
Spanish—"Elementary Spanish" and "Intermediate Spanish"	1
German—"Elementary German" (A and B)	1
"Intermediate German" and "Elementary Prose Composition"	1
"German Idioms and Synonyms" and "Modern German Dramas"	1
English—"Prep. English Composition,—A" and "Prep. English Literature,—A"	1
"Prep. English Composition,—B" and "Prep. English Literature,—B"	1
Mathematics—"Elementary Algebra" (A, B, and C)	1 $\frac{1}{2}$
"Plane Geometry" (DMj.)	1
"Solid Geometry"	$\frac{1}{2}$
Physics—"Elementary Physics" (A and B)	1
Physiography—"Physical Geography"	$\frac{1}{2}$
Drawing—"Freehand Drawing"	$\frac{1}{2}$
"Projective Geometry"	$\frac{1}{2}$

V. THE REQUIREMENTS FOR A BACHELOR'S DEGREE

A total of 66 Majors representing four years (15 units, approximately 30 Mjs.) of high-school work and four years (36 Mjs. with 72 "grade points") of college work are required for a Bachelor's degree. Any amount of the high-school work and as much as one-half (18) of the 36 Majors of college work may be done by correspondence.

¹ These courses, when completed and passed, will be accepted in lieu of entrance requirements. Many of them will yield college credit if not offered for admission.

REQUIRED COLLEGE WORK

1. *Specified Courses*.—"English I" and "English III."
2. *Continuation Courses*.—Three Majors of that subject in which 3 (or 2) units of admission work are offered or of that subject in which one unit of Senior high-school work is offered.
3. *Distribution Courses*.—Enough Majors in each of the following groups to make the total (high-school+college) credit 4 Majors (=2 units).

- I. Philosophy, History, and Social Sciences: Departments I–VI.
- II. Language other than English (i.e., Greek, Latin, French, German, or Spanish). The four Majors must be in one language.
- III. Mathematics: Department XVII.
- IV. Science: Departments XVIII–XXVIII.

4. *Sequences*.—(a) One *principal* sequence of at least 9 coherent and progressive Majors taken in one department or in a group of departments. (b) One *secondary* sequence of at least 6 Majors selected from a different department or group of departments. These sequences must have the approval of the Dean. The work in the Divinity School, the Law School, the Courses in Medicine, or the College of Education may be counted in satisfaction of either sequence.

The degree of A.B. is conferred when the principal sequence consists of 11 Majors of Latin and 9 Majors of Greek (7 if all are of a college grade; cf. p. 29 of this circular) including entrance work. A secondary sequence of 6 Majors is also required.

The degree of Ph.B. is conferred when the principal sequence has been taken in Departments I–XVI.

The degree of S.B. is conferred when the principal sequence has been taken in Departments XVII–XXVIII.

Mathematics may, at the option of the student, be used as the principal sequence for either the Ph.B. or S.B. degree.

No courses counted in satisfaction of entrance requirements, or of the provisions of paragraphs 1 and 3, shall count in making up the principal and secondary sequences, except in the case of the 9- and 11-Major groups in the requirements for the A.B. degree.

Not more than 15 Majors may be taken in college in one department.

VI. COURSES OF INSTRUCTION

I. PHILOSOPHY

1. *Logic*.—The topics considered in this course are those usually included in a survey of logic—such as the concept; the various forms of judgment; inductive and deductive aspects of reasoning; the nature and use of the hypothesis; methods of inductive inquiry and experimental investigation; syllogisms and fallacies, etc. Stress will be laid on the functional aspect of thought processes and attention will be called to underlying psychological principles. The aim throughout will be to emphasize the vital connection between logic and the practical problems of everyday life and to show that thinking in the strictly logical sense is a constructive process arising out of the needs of the individual and finding its value in enabling him to organize more adequately his experience and to deal more effectively with the subject-matter with which his thinking is concerned. The student may expect, accordingly, to acquire not only a practical knowledge

of logic and a certain training in critical habits of thought but also a good basis for subsequent philosophical study. While "Elementary Psychology" is a helpful preliminary, the course may be taken with profit by those who are prepared for thorough study. Mj. DR. ASHLEY.

2. Ethics.—An introductory course intended (1) to familiarize the student with the main aspects of ethical history and theory, and through this (2) to reach a method of estimating and controlling conduct. The main divisions of the course are: (a) the general nature of moral conduct; (b) a study of the evolution of the moral problem from primitive life to the present; (c) a comparative study of current ethical theories; (d) application of the foregoing to present problems of social and individual life. The course will be based on the text of Dewey and Tuft's *Ethics*, with collateral study of Mill's *Utilitarianism*, Kant's *Metaphysics of Ethics*, and Spencer's *Data of Ethics*. Mj. DR. ASHLEY.

3. Introduction to Philosophy.—The whole field of philosophic problems in their general aspects is covered in order that the student may grasp the mutual relations of the subjects treated in the Department of Philosophy. To this end Plato's *Republic* is made the center of the course, and the various problems which confronted the Greek thinker and his way of dealing with them are contrasted with the way in which modern thinkers interpret similar problems. The origin of ethics and logic as special sciences is considered in connection with the motives leading to the more ultimate problems of the nature of knowledge and external reality. Art, politics, natural science, and education are dealt with from the standpoint of philosophy. A second division of the course analyzes leading types of philosophic attitudes and suggests representative men and writings embodying each attitude. Throughout the course the student works out individual problems according to the "case method"; one object of this study is to make evident the organic connection of theory and practice. Mj. DR. TALBERT.

4. Greek and Mediaeval Philosophy.—This course is designed (1) as a survey of the history of thought, considered in its relations to the sciences, to literature, and to social and political conditions, and (2) as an introduction to philosophy through a more careful study of some of the most important systems. Special attention will be given to the study of the more important dialogues of Plato and to Aristotle's *Ethics*. Mj. PROFESSOR TUFTS.

5. Modern Philosophy.—Descartes to Hume, with special study given to Descartes' *Meditations*, Locke's *Essay*, Berkeley's *Principles of Human Knowledge*, and a portion of Hume's *Treatise on Human Nature*. Mj. PROFESSOR TUFTS.

6. Introduction to Kant.—Watson's *Selections* and Mahaffy and Bernard's editions of *The Critique of Pure Reason* and *Prolegomena* will be made the basis of the work. The course will be opened with a brief study of the thought of Leibnitz, for which Dewey's *Leibnitz* will be used. This will be followed by a brief outline of Kant's early development, and a detailed study of the more important portions of *The Critique* as found in Watson's *Selections*. Prerequisite: course 5, or its equivalent. Mj. PROFESSOR TUFTS.

7. Movements of Thought in the Nineteenth Century.—The course continues in less technical manner the history of modern philosophy: romanticism as represented by Rousseau and certain poets; idealism in German philosophy and in Carlyle; utilitarianism; positivism; transcendentalism as seen in Emerson's view of nature and man; the doctrine of evolution, particularly in its relation to human society and the problems of morality as considered by Huxley; the relation of the scientific to the philosophic point of view as defined by Royce. Those who register for the course should have access to a good library or be prepared to purchase a number of books. Prerequisite: two of the three courses, 4-6. Mj. PROFESSOR TUFTS.

8. Contemporary Philosophy.—Selected works of Eucken, Bergson, and James are studied in detail, the purpose being to illustrate types of philosophic thought. Some of the problems considered are: (1) the relation of philosophy to science; (2) the nature of freedom, space, and time; (3) the definition of truth;

(4) the contrasting standpoints of absolutism and pragmatism. This course furnishes the student an opportunity to read philosophers who are now exerting influence and to formulate by comparison and criticism a point of view of his own. Mj. DR. TALBERT.

9. Evolution and Modern Thought.—To trace the important consequences of Darwin's theory and method is the object of this course. Starting with an outline of the elements of Darwin's hypothesis, attention is first directed to the history of the English development, followed by a consideration of the contributions of selected European and American writers. Ethics, politics, sociology, logic, aesthetics, and psychology are the fields in which the influences of the doctrine of evolution are considered. The conclusion of the study suggests the way in which the concept of evolution affects general philosophical attitudes as expressed by recent schools of philosophy. Some of the writers included are Spencer, Huxley, Ritchie, Green, Bradley, Kropotkin, Bergson, Wundt, Hirn, Royce, and James. Since the course covers an extensive field it is desirable for the student to select a special problem for more detailed study. To avoid the necessity of a large library, the lesson notes contain fuller discussions than is ordinarily the case. Mj. DR. TALBERT.

10. Hindu Philosophy.—The course will trace the growth of philosophic thought in India from the *Rig Veda* through the *Upanishads* to the six great philosophical systems. Especial attention will be paid to the Vedānta, the Sāṃkhya, and the Yoga systems. Mj. DR. CLARK.

11. Aesthetics.—In this study art is not considered technically; it is treated as a universal interest, and the principles underlying beauty are derived from a historical and descriptive survey of the several special arts. Recent writings on aesthetics are utilized, but most attention is given to the student's observation and analysis of beautiful objects in order to cultivate both understanding and appreciation. There are four divisions of the treatment: (1) art in primitive society, the development of the dance, music, poetry, and the plastic arts, the relation of utility to early art forms; (2) the psychology of the aesthetic experience, feeling, imagination, and the perception of form, the nature of rhythm; (3) types of artistic creation, architecture, sculpture, music, painting, and the drama, standards of beauty; (4) the relation of art to other interests, practical, moral, and philosophical. Prerequisite: "Elementary Psychology" or an equivalent course. Mj. DR. TALBERT.

IA. PSYCHOLOGY

1. Elementary Psychology.—This course takes up the general study of mental processes. It aims to train the student to observe the processes of his own experience and those of others, and to appreciate critically whatever he may read along psychological lines. It is introductory to all work in philosophy and pedagogy, and is an important part of equipment for historical and literary interpretation. Mj. ASSISTANT PROFESSOR CARR.

2. Advanced Psychology.—This course presupposes such a familiarity with the subject-matter of psychology as may be gained from course 1 or from intimate acquaintance with Angell's *Psychology*, James's *Briefer Course in Psychology*, Royce's *Outlines of Psychology*, Titchener's *An Outline, and Primer of Psychology*, or Wundt's *Outlines of Psychology*. It may then properly be described as a continuation of the study or an *advance* upon an elementary presentation of the science with a view to further grounding in methods, and a reconsideration of some of its salient problems in the light of recent specialized studies. Mj. DR. MACMILLAN.

3. Psychology of Thinking (Introductory Course).—The purpose of this course will be to investigate the character and function of thinking. Thinking will not be regarded in accordance with popular usage as a common term for all sorts of imagery but will be treated as a reflective process, which arises because of difficulties in our experience and has its object and justification in their solution.

The psychology of thinking will include, therefore, (1) a preliminary study of conduct, or behavior, with a view to determining the conditions which give rise to problems and reflective processes, and (2) a more detailed account of the way in which thinking proceeds in our attempt to solve these problems. In connection with the general investigation various applications to education, science, and practical affairs will be pointed out—partly for the purpose of illustration and partly for the value which the student who is interested in these fields will derive from the point of view which the course will tend to develop. No special preparation is required as a prerequisite, but any work which the student may have had in biology or psychology should be of considerable assistance. Mj. DR. ASHLEY.

4. Social Psychology.—Mind is treated from the standpoint of its organizing, communicating function in social groups. The basis of the theory of social consciousness is derived from recent studies in gesture, language, and instinct. Questions proper to this science are: (1) the genesis and development of consciousness in the family, gang, school, club, voluntary association, and nation; (2) the social character of instinct, feeling, perception, and thinking; (3) the interpretation of the crowd, fashion, and custom; (4) criticism of the prevalent doctrine of imitation and suggestion; (5) political parties, the newspaper, and the public will; (6) democracy and leadership. German, French, and English writers are utilized, but most importance is attached to the views of American social psychologists and application to present problems in education and politics. Mj. DR. TALBERT.

5. Psychology of Religion.—Emphasis is laid on the origins of religion in primitive society, the function of religion from psychological and sociological points of view, and its relation to science and democracy. Part I treats the salient aspects of primitive religion—as custom, taboo, magic, ceremonial, myth, spirits, sacrifice, and prayer. Part II discusses the evolution of religion in the individual from childhood to maturity; the psychology of conversion and religious education are important topics. In Part III the wider aspects of religion are studied: The value and limitations of sects, the nature of religious genius, non-religious persons and the difference between the religious attitude of primitive man and the attitude of the modern individual. Throughout the course the purpose is to consider religion as a normal phenomenon related to human values and institutions and having an identical function from past to present, notwithstanding vast changes in its forms and doctrines. Mj. ASSISTANT PROFESSOR AMES AND DR. TALBERT.

IB. EDUCATION

THE HISTORY OF EDUCATION

1. History of Education.—This course covers in outline the history of education from savagery to the present time. The subject is presented in such a way as to enable the student (1) to gain a conception of the relations of the ideals of an age to general industrial and social conditions; (2) to discover the more important steps in the development of educational theory and practice; and (3) to get a background for the evaluation of the various factors in the problems which command attention today. Emphasis is placed upon great movements rather than upon individuals. Eminent philosophers and educators are considered, but they are treated with reference to the movement to which they have contributed. Mj. DR. DOPP.

2. A Comparative Study of the School Systems of Germany, England, and the United States.—The course will trace the historical development of the existing systems of elementary and secondary education, with especial emphasis upon the characteristic ideals that have differentiated them, and upon present tendencies. Mj. PROFESSOR BUTLER.

ADMINISTRATIVE AND SOCIAL ASPECTS OF EDUCATION

3. School Administration and Supervision.—This course is designed for superintendents, principals, supervisors, and teachers who wish to prepare

themselves for supervision and administration. It deals with the following topics: (1) organization of state school systems; (2) distribution of educational functions among state, county, town, and district officials; (3) municipal school systems; (4) the school board; (5) superintendent and supervisory staff; (6) the budget and its distribution; (7) school sites, buildings, heating, ventilation, lighting, sanitation, furniture, and equipment; (8) relations of administrative and supervisory officials to school boards, teachers, pupils, parents, and the community in general; (9) grading, testing, and promotion of pupils; (10) textbooks and schoolroom appliances; (11) courses of study from the superintendent's point of view; (12) preparation, certification, appointment, tenure of service, and promotion of teachers; (13) supervision of teaching and the training of teachers while in service; (14) compulsory education and child-labor legislation; (15) the education of exceptional children, delinquents, and defectives; (16) organization of vocational education, evening schools, and continuation classes; (17) physical education, medical inspection, playgrounds, and play centers; (18) educational statistics and reports; (19) new administrative demands being created by our present rapid expansion of educational functions. The course aims at a wide perspective view of organization for those who must direct the many serious readjustments that are now being made in our school systems with ever-increasing rapidity. **Mj. ASSISTANT PROFESSOR BOBBITT AND MR. TRYON.**

4. Problems in Secondary Education.—The course will discuss education as training for social efficiency: the intellectual, social, physical, and moral elements in education; adolescence; the high-school curriculum; handicrafts in secondary education: electives; the extension of the high-school course by the addition of two years; "the many-sided interest" on sending boys and girls to college. The student will be expected to make a study of schools in his neighborhood and to make reports upon these schools, in relation to the general topics studied. **Mj. PROFESSOR BUTLER.**

5. The Evolution of Industries and Their Place in Education.—This course is designed to meet the needs of those supervisors, principals, and teachers who are attempting to incorporate industrial education in the course of study. It aims (1) to afford an insight into the principles of selection by means of which industries and occupations of various sorts may be tested; (2) to present the most fundamental features of industrial evolution; (3) to make a more particular study of several typical industries; (4) to make a practical application of these studies to the elementary and high schools; and (5) to help the teacher gain information regarding the literature of the subject and the nature of the materials and apparatus required. **Mj. DR. DOPP.**

6. Industrial Education in Public Schools.—The course begins with an explanation of the meaning of the present widespread movement for industrial education, and a discussion of its relation to other phases of vocational training. This is followed by a historical sketch of industrial education in the United States since 1876, which serves to show the relation between manual training and industrial education. A complete analysis of the present demand for industrial education is made, and consideration is given to the attitude of the manufacturer, of organized labor, of the educator, and of the social worker. Educational ideals are discussed briefly and a statement is made of the necessary revision of these ideals involved in the evolution of the school system to meet the demand for industrial education. A comprehensive plan of organization for school systems of industrial communities is discussed in detail and a study is made of all the existing types of industrial schools or classes. These include elementary or pre-vocational, intermediate, secondary, trade, part-time, continuation, and evening schools. Reference is also made to some private experiments in trade training. Among the topics discussed in their relation to industrial education are the following: (1) industrial history; (2) labor and capital; (3) elimination of waste; (4) specialization and concentration; (5) basis of differentiation between elementary and secondary education; (6) vocational guidance; (7) state legislation. **Mj. ASSOCIATE PROFESSOR LEAVITT.**

7. Primitive Arts as Educational Means.—This course treats of such typical arts as the dance and pantomime, the festival, music, poetry, the graphic and the plastic arts with reference to (1) their genesis, growth, and differentiation; (2) their practical, intellectual, social, and aesthetic values; and (3) their significance in elementary education. Mj. DR. DOPP.

EDUCATIONAL PSYCHOLOGY AND EXPERIMENTAL EDUCATION

8. Educational Psychology.—A study of the fundamental psychological processes, with especial emphasis upon those which have direct relation to educational problems. The application of mental laws both to general educational procedure and to the conduct of the special disciplines is made throughout. For example, the general problem of interest, and the particular school subjects, reading, writing, and number, are treated from the psychological point of view. Attention is given also to the mental development of the child. Mj. ASSISTANT PROFESSOR FREEMAN AND DR. ASHLEY.

9. An Introduction to Child-Study.—Child-study in the widest sense aims to give scientific information concerning the normal life of children. Necessarily it emphasizes natural growth and normal functioning in every aspect, but it must touch upon abnormal growth and the conditions and situations that influence favorable and unfavorable physical and mental constitution and action. This course is designed principally to acquaint students with such phases of the physical and mental life of children of school age as the hygienist and teacher should be familiar with. It reviews the main problems that have been or are being investigated, as well as the current methods of correcting, standardizing, and presenting data concerning child growth and education, and suggests lines of inquiry that are of vital interest to the well-informed worker with children. Mj. DR. MACMILLAN.

10. Classifications and Care of Children.—This course will deal with a special problem of child-study, namely, the variations that differentiate children. Starting with the characteristics common to all children, it will emphasize the varieties or departures from the common or typical which require special care in the home and special training and opportunities in home and school. While primarily designed for students who aim to specialize in the investigation, or the teaching, or the care and treatment of special children, much of the course can be made adaptable to meet the interests and needs of regular teachers and mothers. It presupposes an acquaintance with the course entitled "An Introduction to Child-Study" or its equivalent. Mj. DR. MACMILLAN.

EDUCATIONAL METHODS AND PRINCIPLES

11. Principles of Education.—This course is designed to introduce students to the study of Education from a historical and scientific point of view. The readings are intended to arouse in the minds of the students some inquiries with regard to the possibilities of organizing the course of study in such a way that it shall be based upon psychological and sociological principles rather than mere tradition. Mj. ASSISTANT PROFESSOR FREEMAN.

12. An Introduction to the Theory and Practice of the Kindergarten.—The aim of the course is: (1) to make a careful study of the best material, songs, games, and stories for children of kindergarten age; (2) to compare those we have today with those selected by Froebel, thus illustrating his anticipation of many phases of the child-study movement; (3) to find the right place and relation of his ideals to the later principles and methods of genetic psychology. Mj. MRS. PUTNAM.

13. Curriculum for the Primary Grades.—This course is planned for the practical help of primary teachers, kindergartners, and supervisors. It will consider (1) the intrinsic relations between the kindergarten and primary grades; (2) various factors in the making of a curriculum for the first three grades and the organization of subject-matter in these grades; (3) the relative proportion and the relation of children's independent work at their seats to the recitation period;

(4) the relation of reading, writing, number, and constructive work to the rest of the program; (5) the simplifying and unifying of the day's program. Since the teaching of reading is rather the unique problem of the primary grades especial attention will be given to a discussion of the principles involved, legitimate tests of what constitutes good reading, and prevalent methods considered in the light of these premises. Each lesson will give an opportunity for help in meeting individual problems in the subject under consideration. The aim is to enable teachers to organize work in the primary grades effectively and to carry out work already organized more intelligently and successfully. *Mj. MISS WYGANT.*

14. Principles of Method for Elementary-School Teachers.—This course which is designed for supervisors as well as for elementary-school teachers treats of the principles underlying the learning process and the selection and organization of subject-matter. Typical modes of activity, such as dramatic play, modeling in sand and clay, drawing, painting, excursions, field-trips, experimental work, illustrative and real constructive work, and language, are considered as means of providing first-hand experience which the child needs in order to understand the subject-matter presented in books and other symbols. The principles considered are applied to the teaching of history and nature-study. *Mj. DR. DOPP.*

15. Principles of Method for High-School Teachers.—This course discusses the general principles of method which are fundamental in the teaching of all high-school subjects, and indicates by concrete illustrations from these subjects how the principles apply. The following topics are taken up: (1) broadening conceptions of the purpose of high-school education; (2) the machinery of school-keeping; (3) factors determining the selection and arrangement of subject-matter; (4) processes of learning—motor learning, learning involving simple associations, learning involving analysis and reasoning, the development of appreciation, etc.; (5) incentives, motives, stimuli in learning; (6) typical methods of conducting instruction; (7) testing the results of instruction; (8) planning instruction. *Mj. DR. DOPP.*

16. The Training of Children (for Mothers).—The special aim of the course will be to bring to the mother or teacher such practical knowledge of the fundamental laws of the growth and development of children as will be applicable in the home, beginning in the nursery and following through the periods of childhood and adolescence. It will treat of the problems of play, interest, habit, etc., and will aim to show how Froebel, the originator of the kindergarten, would make the child the chief agent in his own development, and at the same time offer a basis for an intelligent and willing obedience to law. The standards of, and reasons for, present educational methods will be discussed, that parents may judge discriminatingly of the school work which is being done by and for their children, and determine whether it is really making for the best all-sided growth of the child. To this will be added a brief discussion of the value of the Montessori method of education, and its place in relation to the kindergarten. *Mj. MRS. PUTNAM.*

NOTE.—Related courses will be found under Departmental Nos. I A, IV, VI, XII, XIV, XV, XVI, XVII, XXI, XXI A, XXII, XXIV, XXVII, XLVI, CXXII, CLI, CLV.

II. POLITICAL ECONOMY

1. Principles of Political Economy.—

A. This course endeavors to point out to the student the main characteristics of our present industrial system. This is done by an examination of its development and by an analysis of its features. A careful study is made of the economic laws governing the production, consumption, and exchange of wealth. *Mj.*

B. In this course the problems of distribution and several of the concrete problems of the day are discussed. Among the subjects treated are the following: rent; wages; interest; profits; money; banking; international trade; the tariff; trade-unionism; socialism; taxation and public finance. Prerequisite: course I A. *Mj.*

PROFESSOR MARSHALL AND ASSISTANT.

ACCOUNTING

2. Bookkeeping.—This course gives a full treatment of the underlying principles of bookkeeping. Its purpose is to acquaint the student with the theory and nature of accounts. The subjects treated will be (1) forms of accounts, (2) books used in accounting, (3) mode of handling commercial papers, (4) the recording of transactions, and (5) double-entry methods in retail business. In the first half of the course a proprietary business will be conducted and properly closed. Following this, a retail partnership is opened, introducing a new line of trade, and distributing profits proportionately among partners. All principles presented will be practically illustrated by a series of transactions that the student will be required to enter in a set of forms which accompany the textbook required in the course. Prerequisite: a working knowledge of arithmetic. [This course commands admission credit only.] Mj. MR. KEEN.

3. Wholesale Partnership Accounting.—This course follows course 2, and is designed for students who have completed that course, or who are familiar with the principles of bookkeeping therein enunciated. The articles of co-partnership are introduced and explained: the net profits or losses are carried to the partners' accounts, and the books formally closed. New accounts pertaining to a wholesale trade are taken up, in addition to those previously studied. Special attention is given to the method of handling invoices and sales by the loose-leaf system. Also the sales ledger, the bills-receivable, and the bills-payable books are introduced. A system of keeping departmental costs will be fully carried out, showing a comparison of the costs and sales in the several departments in the business. As in course 2, the student will be required to do the practical work in recording transactions, and handling the commercial papers pertaining thereto. Mj. MR. KEEN.

4. Corporation Accounting.—In this course will be studied the formation of corporations in every state; the conversion of a partnership into a corporation and the treatment of good-will; the special accounts and books used in corporation accounting; the manner of issuing, transferring, and canceling stock; the making of forms of balance sheets, and a study of the items composing the same; the income accounts; the declaring and payment of dividends; reserve fund; depreciation, surplus, and the closing of the books for the year. The student will be required to do practical work illustrating the above principles; and in connection with the references given to prepare papers on the special topics. Prerequisite: course 2, or its equivalent. Mj. MR. KEEN.

5. Cost Accounting.—This course is designed to give a correct understanding of that type of accountancy which deals with the preparing of products for the market. Due consideration will be given to all the elements and principles involved in the process of manufacturing. A synthetic set of problems will be used to illustrate in detail the direct relation of expense to output. In conjunction with the private laboratory work, an occasional theme on office investigation will be required. Prerequisite: course 4 or its equivalent. Mj. MR. KEEN.

6. Bank Accounting.—This course will begin with a study of the laws governing the banking systems in the United States. The organization of a banking business will be fully presented. All the departments of a bank will receive due notice. The various books and accounts used in modern banking houses will be taken as models for record work. Full directions accompany the lessons for installing a system of bank accounting, followed by actual transactions covering a period of three months, when the books will be closed, a financial statement rendered, and a thorough review given upon the principles covered in the entire set of lessons. Prerequisite: course 2 or its equivalent. Mj. MR. KEEN.

III. POLITICAL SCIENCE

1. Civil Government.—This course is devoted to an analysis of the organization and activities of the American government, local, state, and national. Some of the topics treated are: (1) the historical foundations of American institutions; (2) the evolution of federal and state constitutions; (3) the development

of political parties and party machinery; (4) nominations and elections; (5) the organization, powers, and duties of the executive, legislative, and judicial departments of the federal, state, and local governments; (6) city government; (7) territorial government. Emphasis is placed upon the actual work governments perform. This course covers the ground of course 1 in residence. Mj. MR. EVANS.

2. Elements of Business Law.—This course deals with the following branches of private law: (1) contracts; (2) sales; (3) bills and notes; (4) agency; (5) partnership; (6) private corporations; (7) bailments; (8) guaranty and suretyship. These are the subjects most closely connected with the ordinary transactions of business. The general doctrines and underlying principles of these branches are discussed and analyzed and their application illustrated by actual cases. To indicate the scope of the work the following topics will receive attention in dealing with (6) *private corporations*: (a) formation of a corporation; (b) capitalization; (c) common and preferred stock; (d) bonds; (e) ownership and transfer of shares; (f) liability of shareholders; (g) management of corporations; (h) corporate meetings; (i) the powers and duties of officers; (j) the legal powers of the corporation; (k) dividends; (l) dissolution and liquidation of corporations. The purpose of this course is twofold; (1) to give to the man of business a knowledge of the general character and extent of his legal rights and duties; (2) to give to the general student an introduction to the study of the nature and doctrines of American private law, so far as they are illustrated in the subjects treated. Mj. ASSISTANT PROFESSOR HALL.

3. Elements of International Law.—A study of the rules observed by civilized nations in their relations with each other. The course includes a general consideration of the history and development of international law and a more detailed study of the subject in its three fundamental divisions of peace, war, and neutrality. Some of the topics treated are the nature, sources, and divisions of international law; the intervention of one nation in the affairs of another; the rights and duties of nations in connection with property; the extent and nature of a nation's jurisdiction over its territory, subjects, and public and private vessels; the rights and duties of diplomacy; modes of warfare; recognition of belligerency; effect of war on treaties; rules of war on land and sea; rights and duties of neutral states; blockade; contraband of war; etc. The course is not strictly technical in character, and should prove of value to those desiring a better understanding of current international affairs, as well as to lawyers and teachers of history and political science. The work will be based on a standard text, supplemented by a book of cases on international law. Mj. ASSISTANT PROFESSOR HALL.

4. Constitutional Law in the United States.—A study of the principles of constitutional law as they have been developed in relation to the federal constitution and to some of the more important provisions of the state constitutions of the United States. The general topics discussed are: (1) the nature of American constitutional law; (2) making and changing of the American constitution; (3) separation of powers; (4) function of judiciary in enforcing constitutions; (5) political rights; (6) personal and religious liberty; (7) protection to persons accused of crime; (8) due process of law and equal protection of the law in regard to procedure, the police power, power of taxation, and the right of eminent domain; (9) laws impairing the obligations of contracts; (10) powers of the federal government and their exercise; (11) regulation of commerce; (12) intergovernmental relations, and (13) jurisdiction of the federal courts. This course is based upon the study of actual cases, which, wherever practicable, have been so selected and arranged as to show not only the law as expounded by the courts today, but also its historical development. This is supplemented with the text which gives an exposition of the general rules derived inductively from a study of the cases. As far as possible technical terms are avoided so that the course will be of equal value to the general student, the political scientist, and the lawyer. Mj. ASSISTANT PROFESSOR HALL.

NOTE.—Related courses will be found under Departmental Nos. II, IV, and VI.

IV. HISTORY

ACADEMY

The outline courses 1-4 are designed to meet college-entrance requirements in ancient, European, English, and American history, respectively. For A and B together, of each course, one unit of admission credit is allowed. The suggestions for study are made very definite as helps to beginning students and as an outline for high-school teachers.

1. Outline History of Antiquity to 376 A.D.—

A. *Oriental and Greek History to 146 B.C.*—A general narrative and descriptive history of Greece to the Roman conquest, with a brief introductory sketch of the oriental nations that especially influenced Greek civilization. Mj.

B. *Roman History to 376 A.D.*—A general view of Roman history from the early Republic to the establishment of the later Empire in the fourth century, paying special attention to the government and institutions of the latter as a basis for an intelligent study of the mediaeval period. Mj.

ASSISTANT PROFESSOR KNOX.

2. Outline History of Europe (376-1900).—

A. *The Decline of the Roman Empire to the Renaissance (376-1500).*—This course includes a study of the essentials in mediaeval European history from the fall of the Western Roman Empire to the Reformation. Mj.

B. *The Reformation to the Present (1500-1900).*—The course aims to give the student a general understanding of the principal territorial changes, national policies, economic conditions, and intellectual interests of Europe during the last 400 years. Mj.

ASSISTANT PROFESSOR KNOX.

3. Outline History of England.—

A. *English History to 1603.*—An introductory study of the origin and formation of the English nation to the death of Elizabeth. Besides tracing the outlines of political and constitutional development, the course deals briefly with social and institutional history and with the growth of civilization and culture. Mj.

B. *English History from 1604 to the Present.*—Politically and constitutionally, the course treats of the rise of Parliament in the seventeenth century, the growth of cabinet government in the eighteenth century, and the growth of popular control over Parliament in the nineteenth century. The colonial expansion of England, the growth of the British Empire, and the main facts and results of the industrial revolution are studied. Mj.

DR. FOX.

4. Outline History of the United States.—

A. *American History to the Formation of the Constitution (1492-1788).*—The course traces the history of the English colonies on the Atlantic coast from the planting to their union under a written constitution. Political and social institutions in the colonies and such economic conditions as affected their development are studied with some care; European rivalries and colonial wars are made subordinate to their results. Other main topics are: the relations of the colonies to the mother country and to each other; their defense of "the rights of Englishmen" in the face of British colonial policy after 1760; the Revolution and independence; the difficulties of forming a permanent political union; the Articles of Confederation and their failure; the Constitution. Mj.

B. *History of the American Nation under the Constitution (1789-1914).*—Up to the Civil War, the course treats of: the organization of the new government; foreign and domestic problems; the services of the Federalists and their overthrow; Jeffersonian policies; the War of 1812 and results; political and economic reorganization; westward extension and the rise of national democracy under Jackson; the Monroe Doctrine and territorial expansion; the slavery controversy, and the triumph of nationalism over sectionalism in 1865. Following the Civil War, the chief topics are: political and economic readjustments to 1877;

industrial development; economic problems and legislative regulation; civil service and political reform; the growth of socialistic legislation; the Spanish War and "imperialism"; the Wilson policies. Mj.

Dr. Fox.

COLLEGE

5. History of Antiquity to the Fall of the Persian Empire.—In this course the history of the nations of the ancient East—Babylonia, Egypt, Assyria, Syria, Israel, etc.—is studied in its development from the beginnings of organized political life to the fall of the world-empire of Persia. A large amount of reading is expected of students. Mj. ASSISTANT PROFESSOR KNOX.

6. History of Greece to the Death of Alexander.—This course presupposes a general knowledge of the external facts of Greek history (course 1A), and undertakes to conduct the student into an investigation of the underlying principles and forces which condition the outward events. It is intended for those who wish to go thoroughly into the subject, and are willing to give their time and thought to it. Mj. ASSISTANT PROFESSOR KNOX.

7. History of Rome to the Antonines.—A general view of the development of Rome to the close of the first century A.D. with special emphasis on imperial expansion and provincial government. Mj. ASSISTANT PROFESSOR KNOX.

8. European History: The Mediaeval Period (376–1300).—The invasion and settlement of the barbarians, the revival of the empire, the growth of the papacy, and the struggle between those two, Mohammed and his religion, the Crusades, the rise of nationalities and mediaeval institutions will be studied. The needs of the teacher as well as those of the general student are met in this course. It corresponds to History 1 in residence. Mj. ASSISTANT PROFESSOR KNOX.

9. European History: The Later Mediaeval and Early Modern Period (1300–1715).—The course opens with a study of Europe during the period of the Renaissance and extends to the reconstruction of Europe at Utrecht. Besides the Renaissance, the chief topics studied are: the Reformation and its results; the growth of national states; the "wars of religion" to 1648; the ascendancy of France; the English constitutional struggle of the seventeenth century; and the colonial expansion of Europe following the period of exploration and discovery. The course corresponds to History 2 in residence. Mj. Dr. Fox.

10. European History: The Later Modern Period (1715–1900).—In the eighteenth century, the principal topics studied are: the rise of Prussia; the colonial supremacy of England; the ancient régime in Europe; the era of the French Revolution and Napoleon. Following this the course will treat the political reconstruction of Europe in 1815, political and constitutional reform, the unification of Italy, and the formation of the German Empire, the industrial revolution, European imperialism, and the growth of socialism and socialistic legislation. Stress will be laid on the economic factors of modern history. The course furnishes an introduction to the study of current history. It corresponds to History 3 in residence. Mj. Dr. Fox.

11. Europe during the Renaissance (1250–1500).—A survey study of the period of the Renaissance in Europe. In addition to a general understanding of important events, emphasis is laid upon exploration and discovery; the growth of nationality; the expansion of the Ottoman empire; commercial and industrial conditions; and the prominent intellectual and religious movements. Prerequisite: course 8 or its equivalent. Mj. Dr. Fox.

12. Europe during the Reformation (1517–1648).—This course is a study of the causes, events, and results of the Reformation in Europe. Much attention will be given to the political, social, and economic phases of the movement, the inseparable religious questions being discussed only so far as is necessary to an understanding of the period. Prerequisite: course 9 or its equivalent. Mj. Dr. Fox.

13. The French Revolution and the Era of Napoleon.—The ground will be cleared for the history of the period by a careful study of the institutions of the Old Régime, in which the remoter causes of the Revolution will be discovered. A consideration of the more immediate causes and the attempts at reform will introduce the Estates General. The Revolution ran through three periods which answer to the National Assembly, the Legislative Assembly, and the Convention, to the extreme of a Red Democracy. Three more periods, corresponding to the Directory, the Consulate, and the Empire, see France return to a military absolutism under Napoleon. The greatest emphasis will be laid upon the institutional changes induced by the French Revolution, and attempt will be made to show the constructive work of the Revolution and of Napoleon. Its importance as one of the greatest generic events of the world's history will give the course a significance wider than France alone. It is desirable that the student be familiar with the outlines of modern European history. Prerequisite: course 9 or its equivalent. Mj. PROFESSOR THOMPSON AND DR. FOX.

14. The Church and the Roman Empire (from the beginning to Justinian, 565).—In this course, and the one following it, an effort is made to study the development of the church both as being affected by its environment and as affecting the society in which it developed. The main emphasis, however, is placed upon the latter aspect of the subject, namely, the social significance of the church. The whole history of the Roman Empire is looked at as a phase in the movement of civilization from the east, westward. As an especially important element in this movement, the religious practices of the orientals are sketched from the evolutionary point of view. On this background is traced the beginning of the Christian communities. In outlining their continuous development, the attempt is made to show how they, in conjunction with other influences, notably those of the oriental religions, bring about certain transformations in Roman society. Attention is accordingly given to their relation (1) to the evolution of religion and morality; (2) to the subordination of philosophy to religion; (3) to the substitution of the ascetic for the non-Christian ideal; (4) to the development of new ideals and subjects in education and to the transformation in the spirit and uses of art and architecture; (5) to the development of new social centers; (6) to the creation of a system for the care of the poor and the sick; (7) to the creation of a new means of shaping public opinion and exerting political influence. Mj. ASSISTANT PROFESSOR WALKER.

15. The Church and the Barbarians (from Gregory the Great to the Twelfth Century, 590–1100).—There is continued in this course the point of view assumed in the preceding one, namely, the relation of the church to the evolution of society. In accordance with this point of view, attention is directed to the following subjects: (1) The clergy as leaders of the old society over against the Invaders; (2) the church and its reactions on the new religious conceptions and practices introduced by the Invaders; (3) the church as the moral trainer of society through the example principally of the monks, through preaching, through the confessional, through chivalry, and through marriage; (4) Monasticism as an economic and intellectual agent; (5) the church as the transmitter of Roman notions of administration and law; (6) as a mold of public opinion and a political force. The contemporaneous barbarization and feudalization of the church is also emphasized. Mj. ASSISTANT PROFESSOR WALKER.

16. History of England to the Accession of the Tudors.—Early Britain, its Romanization, the settlements of the invading German tribes, the struggle for supremacy, the union of England under Wessex, the Norman Conquest, the struggle of the people for constitutional rights, civil and foreign wars, and the beginning of the Renaissance in England will be studied. Mj. DR. FOX.

17. England from Henry VII to Edward VII (1485–1900).—While a general view of political policy, foreign and domestic, is the chief aim of the course, special attention is given to such important topics as the growth of Parliament, of democracy and imperialism, and considerable stress is laid on religious, economic, and social movements. Mj. DR. FOX.

NOTE.—The following courses presuppose course 4 (A and B) and afford opportunity to study American history more exhaustively. The student is advised to take the courses in sequence. In this way he will greatly economize the expenditure for books, since successive courses require the same textbooks to a large extent. Graduate credit may be obtained in courses 18, 19, 20, and 21, by properly prepared students who have access to sources and original documents and who do additional advanced work under the direction of the instructor. In such cases the tuition fee for each Minor will be \$16 instead of \$8.

18. Colonial Period (1492-1763).—

A. *Discovery and Colonization*.—The course deals with the American aborigines, the causes and motives leading to the discovery of America, the voyages and journeys of the discoverers, the claims arising from these explorations, the growth of geographic knowledge, and the founding of the English, French, Spanish, Dutch, and Swedish Colonies. M.

B. *Colonial Institutions and History*.—This course begins with a study of the political institutions of the American colonies. English colonies receive most attention, but those of other nations are also considered. The chief events of colonial history are then considered, with especial reference to the relations between the English colonies and the mother-country. The course concludes with a survey of the struggle for supremacy in North America, ending with the final triumph of the English in the Seven Years' War. M.

ASSISTANT PROFESSOR JERNEGAN.

19. The Formation of the Nation (1763-1789).—

A. *The American Revolution (1763-1783)*.—The following topics show, substantially, the content of the course: the territorial, political, and economic condition of the English colonies in 1763; the new policy of the English government; the development of colonial opposition; the constitutional and philosophical arguments on both sides; the beginning of hostilities; the Declaration of Independence; the progress of the war; Congress as a governing body; the Loyalists; French and Spanish intervention; Washington's triumph; the preliminaries and terms of peace of 1783. M.

B. *Confederation and the Constitution (1783-1789)*.—The following topics are treated: the results of the Revolutionary War; the government under the Articles of Confederation; the organization of the western territory; interstate controversies; problems of diplomacy and foreign trade; violations of the treaty of peace; paper money; the Shays Rebellion; the Constitutional Convention; analysis of the Constitution; the process of ratification. M.

ASSISTANT PROFESSOR JERNEGAN.

20. The Growth of the Nation (1789-1861).—

A. *Foreign Politics and National Expansion (1789-1829)*.—Beginning with the organization of the national government, the course deals with the policy of the Federalist party in foreign and domestic politics and the rise of the Democratic opposition. The broad and strict constructions of the Constitution are carefully studied. Further topics are the fall of the Federalists; Jefferson's policy; annexation of Louisiana; experiments in neutrality; and the causes, progress, and results of the War of 1812. The course concludes with a survey of the political and economic reorganization after the war, including western expansion, the Missouri Compromise, the Monroe Doctrine, and the triumph of the Jacksonian democracy. M.

B. *The Strife of Sections (1829-1861)*.—This course opens with a study of Jackson's administration—the civil service, tariff, nullification, bank, etc. Slavery then becomes the dominant issue. The chief topics are slavery as a system; the anti-slavery movement; Texas and the Mexican War; the Compromise of 1850; the Kansas-Nebraska question; the Dred Scott case; the rise and final triumph of the Republican Party; and the consequent secession of the southern states. M.

ASSISTANT PROFESSOR JERNEGAN.

21. Consolidation and Expansion (1861-1910).¹—

A. *Civil War and Reconstruction*.—M.

B. *Political and Economic Centralization*.—*The Nation as a World-Power*. M.

ASSISTANT PROFESSOR JERNEGAN.

¹ May be available during 1914-15.

SCHOOL OF EDUCATION

22. History for Primary Grades.—This course is designed for teachers in primary grades and also for supervisors and principals. It aims (1) to show the principles upon which subject-matter should be selected for the children of the lower grades; (2) to assist the teacher in outlining a course of study; (3) to give practical help in methods of presenting subjects to children; (4) to show the relation which a course of study in history should bear to the social occupations of the school. The course treats of the following topics: primitive industrial and social life; local history; civics; constructive work; children's literature. Students who are teaching in primary grades may modify their work to make it of practical assistance in their own schools. The course covers the ground of course 1 in the Department of History in the School of Education. Mj. ASSOCIATE PROFESSOR RICE.

23. Teachers' Course in American History.—This course is intended for teachers in the upper grades of the elementary schools. It gives a brief study of colonial history, and a fuller treatment of the period of westward expansion. The effects of geographical environment upon industrial and social life are emphasized. The course corresponds to course 11 in the Department of History in the School of Education. Mj. ASSOCIATE PROFESSOR RICE.

VI. SOCIOLOGY AND ANTHROPOLOGY

SOCIOLOGY

1. Introduction to Sociology.—A study of the phenomena of social life; the basis of society in nature; the social person; social institutions; and social psychology, order, and progress. The course is designed to give an introduction to theoretical and practical sociology, and to systematize the reading, observation, and thinking of advanced students. Mj. ASSISTANT PROFESSOR MACLEAN.

2. Introduction to the Study of Society.—This course is designed to afford a synthetic view of social phenomena, and to furnish the student with a scientific method for the study and correct understanding of ordinary human association. Considerable attention will be paid to local studies as a means of amplifying the text. The aim is to have the course serve as an introduction to the special social sciences. Mj. ASSISTANT PROFESSOR MACLEAN.

3. Elements of Industrial History.—The aim of this course is to acquaint the student with the salient facts of American industrial history and to furnish a foundation for those who wish to do further work in economics or sociology. Selected industries will be studied in detail and their evolution discussed. A course for practical people as well as for students. Mj. ASSISTANT PROFESSOR MACLEAN.

4. Social Debtor Classes.—A course for practical social workers and supporters of social amelioration. The particular work in which the student is interested is taken as a starting-point and an attempt is made to discuss various forms of preventive and constructive social work from the standpoint of the relief visitor, city missionary, alienist, contributor, or lay student, as the case may be. Texts are chosen with a view to the reader's special needs, and illustrations are taken from his own state or community. The chief aim of the course is to give occasion for the reader to analyze, classify, and describe his own environment, and his own experience and observation. Prerequisite: course 1 or its equivalent. Mj. ASSISTANT PROFESSOR MACLEAN.

5. Modern Immigration.—This course includes a study of the forces at work in movements of population from the old world to the new; history and statistical studies of immigration into the United States; nationalities involved; their distribution and industrial adjustment; problems presented; social efforts looking toward better assimilation; the status of the immigrant. A course for students, social workers, and all who are interested in this important social problem. Mj. ASSISTANT PROFESSOR MACLEAN.

6. Rural Life.—The aim of this course is to study rural social life in America, with its problem of isolation, and organized efforts for improvement. The course is designed to meet the needs of Young Men's and Young Women's Christian Association secretaries, country ministers, teachers, social workers, and others who are dealing with the problems of rural communities. The country will be studied in its physical, economic, and psychological aspects with a view to a thorough understanding of rural life, a discovery of needs and existing efforts to meet these, and suggestions for further improvement. Mj. ASSISTANT PROFESSOR MACLEAN.

7. Problems of Industry.—A course designed for the discussion of some of the vital questions in American industrial life, including (1) the labor of women and children; (2) methods of settling disputes; (3) insurance against accident; (4) the improvement of physical conditions in factories; (5) efforts to render workers more efficient. The work will be conducted by means of textbooks, reports, and special studies. Mj. ASSISTANT PROFESSOR MACLEAN.

ANTHROPOLOGY

8. General Anthropology.—An introductory course treating of the origin, antiquity, distribution, and early occupations of man and of the sources of language, religion, the arts, and social relations. The student must consult the instructor before registering for this course. Mj. ASSOCIATE PROFESSOR STARR.

VI A. HOUSEHOLD ADMINISTRATION

1. House Sanitation.—This course offers a comprehensive and practical study, based on scientific principles, of the sanitary aspects of the home. Among the topics treated are the choice of building site, construction and care of cellar, drainage, plumbing, heating, lighting, furnishing, and cleaning. Mj. PROFESSOR TALBOT.

2. Foods and Dietaries.—A course in practical dietetics covering the study of the composition of foods, scientific principles of preparation, and their combination in dietaries from an economic and physiological standpoint. Prerequisite: high-school chemistry and physics. Mj. PROFESSOR TALBOT.

3. Administration of the House.—This course will consider the order and administration of the house with a view to the proper appointment of the income and the maintenance of suitable standards. Changes in household industries in the light of modern economic and social conditions and sanitation will be studied. The domestic service problem will be investigated. Mj. PROFESSOR TALBOT.

SCHOOL OF EDUCATION

4. Design, Decoration, and Furnishing of the House.—This course treats of the general principles which govern the decorating and furnishing of an artistic home, and is intended: (1) for home-makers, as an aid (a) in the selection of paints and stains for house exteriors, wall and floor coverings, draperies and upholstery, furniture, hardware, table appointments, etc., (b) in the arrangement of the home with due regard to color harmonies and space relations, and (c) in the designing and executing of such pieces of handcraft as stenciled or embroidered hangings and covers, lamp and candle shades, screens, pillows, etc.; (2) for teachers, as an enrichment of the courses in art and domestic science in primary and secondary schools, offering in the home a nucleus for a course embracing problems in design and handwork. The following topics are treated: (1) domestic architecture, selection from architects' drawings, exteriors and plans, making original plans; (2) color and color harmonies, applied to the exterior and interior of a house; (3) proportion and space relations with illustrative problems in designs; (4) study in detail of walls, floors, stairs, doors, windows, furniture, hardware, and textiles, with investigation, under direction, of articles to be found in the stores. Mj. MISS RAYMOND.

5. The Application of Heat to Food Materials.—This course includes (1) a study of the food principles; (2) the methods by which heat is applied to food and the effect of different temperatures on the food principles, cooking apparatus and its construction, household fuels and their economic value; (3) combinations of foods and the development by experiment of the principles underlying proportions and methods; (4) some of the simpler processes of chemistry and bacteriology as applied to food preparation; (5) typical manufacturing processes, and some phases of the history and geography of food products; (6) laboratory directions and experiments; (7) the carrying-out of actual cooking processes as a result of the application of these experiments. The course is planned to meet the needs (1) of those who are beginning their preparation for teaching home economics; (2) of teachers who desire to review their work in the light of the recent development of the subject; (3) of social workers in institutions whose activity is largely expressed in household administration; (4) of progressive housekeepers. The two Majors cover the ground of residence courses 3 (A and B) and 4 (A and B) in Domestic Science and should be taken in sequence.

A. Furnishes an introduction to the study of food, with its place in home economics and includes a study of: (1) formulation of weights and measures; (2) water—its use in the body and its use in cooking processes, boiling and freezing points and the factors that affect them, solution, evaporation, the preparation of tea, coffee, and frozen mixtures; (3) different methods of conveying heat—coal and gas ranges, the fireless cooker; (4) a study of fruit—its composition, introducing the subjects of mineral salts, organic acids, and sugar, bacteria, yeasts, and molds in connection with the canning and preserving of fruit and jelly-making; (5) starch and the study of vegetables, with their preparation in various ways; (6) classification of carbohydrates; (7) fats—their decomposition products, use in cooking, the comparative value of various kinds as food; (8) the introduction of protein through the study of milk, separation of food principles, butter-making, cheese cookery, pasteurization and sterilization; (9) eggs, giving different types of protein. Mj.

B. Continues A and includes a study of: (1) proteins illustrated by meat cooking, with especial reference to the effect of different temperatures, gelatin and its use, soups; (2) combinations of starch and proteins; (3) salads; (4) cereals; (5) flour—its manufacture and analysis; (6) doughs and batters, and methods of lightening them; (7) the chemistry of baking powder; (8) yeast in relation to bread-making; (9) the making of menus and preparation of meals. Mj.

MISS SWAIN.

6. The Chemistry of Foods.—A study of (1) the properties and characteristic reactions of proteins, carbohydrates, and fats, with qualitative tests for their identification; (2) separation of the food principles; (3) study of milk, water, and flour, with some of the simpler methods employed in their analysis; (4) experiments in fermentation; (5) food adulterations and household methods for their detection; (6) laboratory work. Prerequisite: one year of chemistry and course 2 or 5, above, or an equivalent. Mj. MISS SWAIN.

7. The Teaching of Home Economics.—A study of the purpose of this work in the schools; its value as training; its relation to the social life of the school and of the home; the correlation with other studies in the curriculum; the relation of the handwork involved to the science that underlies it and that grows out of it; the selection of subject-matter and the planning of courses, and their adaptation to different conditions; the planning of school laboratories, and the choosing of equipment. Prerequisite: one year of technical training in the subject. Mj. MISS HANNA.

NOTE.—Related courses will be found under Departmental Nos. II, III, VI, XVII, XIX, XX, XXII, XXIV, XXVIII, and CLV.

VII. COMPARATIVE RELIGION

(For courses see p. 66)

VIII. THE SEMITIC LANGUAGES AND LITERATURES

(SEE XLI. OLD TESTAMENT LITERATURE AND INTERPRETATION)

IX. BIBLICAL AND PATRISTIC GREEK

(SEE XLII. NEW TESTAMENT AND EARLY CHRISTIAN LITERATURE)

X. SANSKRIT AND INDO-EUROPEAN COMPARATIVE PHILOLOGY

1. **Elementary Sanskrit.**—The aim of the course is to give the student a thorough grounding in the essentials of Sanskrit grammar, the principles of which are illustrated by constant translation from Sanskrit into English and from English into Sanskrit. It is designed as an introduction to the selections from classical Sanskrit in Lanman's *Reader*, which the student should then be prepared to read rapidly by himself. No attempt is made to teach comparative philology in this course. Mj. DR. CLARK.

2. **The Bhagavad Gītā.**—The Sanskrit text of this most famous of all Hindu religious books will be read and some attention will be paid to the content and the development of the doctrines contained in it. Mj. DR. CLARK.

Hindu Philosophy.—(Cf. description under Philosophy 10.) Mj. DR. CLARK.

The Religions of India.—(Cf. description under Comparative Religion 4.) Mj. DR. CLARK.

3. **Elementary Russian.**¹—

A. After a general study of the declensions and conjugations, texts supplied with extensive notes will be taken up and mastered. Mj.

B. Continues the study of texts with review of inflectional forms. The vocabulary will be enlarged by the study of roots and suffixes. Elementary composition. Extensive syntax study. Mj.

MR. HARPER.

4. **Elementary Chinese.**—

A. This course gives the student (1) the principal rules for pronouncing Chinese words; (2) a vocabulary of about 250 of the most common words; (3) practice in constructing short sentences in Chinese; (4) progressive exercises involving the elements of the grammar—verbs, nouns, and adjectives; (5) drill in translating sentences from English into Chinese and vice versa. A Chinese elementary reader will be used throughout the course. Mj.

B. Advancing on A (1) the vocabulary will be extended to include 500 words; (2) the more difficult points of the grammar will be taken up; (3) the development of verbs will receive special consideration; (4) much longer exercises in translating Chinese into English and vice versa will constitute the principal part of the course. A more advanced Chinese reader will be used. Mj.

MR. WANG.

XI. THE GREEK LANGUAGE AND LITERATURE

ACADEMY

A1. Elementary Greek.—In two majors is offered the equivalent of the first year of high-school work in Greek. The writing of Greek is required from the beginning.

A. White's *First Greek Book*, Lessons 1–60. These lessons include the commonest noun and adjective declensions, the Omega system of conjugation, some fundamentals of syntax, connected reading lessons epitomizing the story of the *Anabasis*, and a vocabulary of 600 common Greek words. Mj.

B. (1) White's *First Greek Book*, Lessons 61–80, including a study of the Mi system of conjugation, reading lessons, continuing the *Anabasis* story, and an additional vocabulary of 250 words; (2) the *Anabasis* of Xenophon, Book i, chaps. 1–3. These lessons call for constant review of the material studied in the *First Greek Book*. Mj.

ASSISTANT PROFESSOR BRONSON.

¹ These courses are eminently practical. Provisional credit is given when A is passed. It will be made permanent when B is passed.

A2. Xenophon: *Anabasis*.—

A. From Book i, chap. 4, through Book ii, chap. 4, about fifty pages. Exercises in writing Greek based upon the text. Mj.

B. From Book ii, chap. 5, through Book iv, about ninety pages. Greek composition, including a topical treatment of syntax. Occasional tests in translation at sight. Mj.

ASSISTANT PROFESSOR BRONSON.

A3. Homer: *Iliad*.—

A. Books i-iii.—An introductory study of the *Iliad* in which the literary and linguistic aspects of the poem and the Greek life of the Homeric period are considered. Particular attention is paid to prosody and the peculiarities of epic dialect and syntax. Mj.

B. Books vi-xxii (*passim*).—The selections read in this course are chosen with a view to giving the student an idea of the plot of the *Iliad* as a whole. They include parts of books vi, ix, xv, xvi, xix, and xxii. The grammar, dialect, and prosody are reviewed, and the text is made the basis of a general literary and elementary critical study of the *Iliad*. Mj.

MR. NELSON.

COLLEGE

Courses 1, 2, 3, and 4 are designed for students who begin Greek *after entering college*. They are co-extensive with the corresponding residence courses, are conducted in the same manner, and are intended to prepare the student for the advanced required work. The first three Majors are equivalent to the first year's work in college.

1. Elementary Greek.—The purpose of this course is to give a mature person or one who has had four years of good high-school training sufficient drill in the most common forms and principles of syntax of the Greek language. After a very few lessons, the *Anabasis* is begun, and throughout the entire course attention is paid to the writing of simple sentences in Greek. Mj. MR. NELSON.

2. Xenophon: *Anabasis*.—The *Anabasis* is continued from the point reached at the end of course 1, and six more chapters from Book i, with selections from Books ii and iii, are read. A systematic study of syntax is begun, with frequent exercises in prose composition. Mj. MR. NELSON.

3. Xenophon: *Anabasis* (Advanced).—Books iv, v, vi, and selections from vii are read in this course, and the systematic study of syntax begun in course 2 is completed. The literary style of Xenophon and the historical content of the *Anabasis* are also subjects of study. Mj. MR. NELSON.

4. Homer: *Iliad*.—This is an introductory course to the study of Homer. The forms and syntax of the epic dialect are contrasted with those of the Attic dialect, and the essentials of prosody are presented. Selections from the *Iliad* amounting to about 2,000 lines are read. The course includes a literary study of this epic, with its pictures of life in the Homeric period. Mj. MR. NELSON.

5. Plato: *Apology* and *Crito*.—In connection with these writings Xenophon's *Memorabilia* will be read to furnish a basis for the study of the life and philosophy of Socrates as interpreted by Plato and Xenophon. The course includes a brief outline of Plato's life and works, and a discussion of the syntax and idioms of Plato. Mj. MR. NELSON.

6. Homer: *Odyssey*, Books v-xii.—This course aims chiefly at enabling the student to translate Homer fluently and with appreciation. It also includes a review of epic dialect and syntax, and a study of Homeric life and antiquities. Mj. MR. NELSON.

7. Herodotus: *Historiae* (Books vii-viii).—The reading covers the invasion of Xerxes including the battle of Salamis. The history of this period and the language and style of the author are studied. Mj. MR. NELSON.

8. Advanced Prose Composition.—The course offers to teachers and others an opportunity to perfect themselves in Greek syntax, sentence structure, and

the use of particles. The exercises are graded from simple narrative passages in the style of Xenophon to more difficult selections in the style of Plato and Demosthenes. Mj. PROFESSOR BONNER.

9. Demosthenes: *Philippics*, and Lysias: *Selected Oration*s.—A general introduction to Attic oratory. The literary characteristics of the authors studied and the public life and the history of their times are considered. Mj. Mr. NELSON.

10. Demosthenes: *De Corona*.—This oration, admitted to be the greatest one of ancient times, will be studied chiefly from the literary point of view. Mj. Mr. NELSON.

11. Introduction to Greek Tragedy.—Sophocles' *Antigone* and Euripides' *Medea* are read. Attention is given to the various problems connected with these plays, to the character delineation, and the method of presentation. Col-lateral reading is assigned on the history of Greek tragedy and theater. Mj. Mr. NELSON.

12. Aristophanes.—An introduction to the study of Greek comedy; intensive study of two plays, probably the *Clouds* and *Birds*; the language and technique of Aristophanes; the external environment and inner spirit of Athenian comedy. Mj. PROFESSOR PRESCOTT.

13. History of Greek Literature.—The course is designed for two classes of students, those who have not studied Greek but desire an intimate knowledge of Greek literature, and those students of Greek who wish a general survey of Greek literature and an opportunity to study the Greek masterpieces more fully from the purely literary point of view. The course includes: (1) a systematic survey of the history of Greek literature down to the Alexandrian period, treating of (a) the origin and development of the various branches of literature, (b) the more important Greek authors, (c) Greek institutions, art, and religion in so far as a knowledge of these is necessary for the understanding of Greek literature; (2) analytical and comparative study of the masterpieces of Greek literature in selected translations. Mj. PROFESSOR MISENER.

Members of the Greek Department will endeavor to arrange informal courses for students who are prepared to do work of an advanced nature whenever practicable. Professor Shorey will occasionally guide by correspondence the work of advanced students who propose to attend the University.

NOTE.—Related courses will be found under Departmental Nos. I and XVI.

XII. THE LATIN LANGUAGE AND LITERATURE

ACADEMY

1. Elementary Latin.—In two majors is offered the equivalent of the first year of high-school work in Latin. Starting with the rudiments, the aim is to acquaint the student with all the regular forms and common constructions found in Caesar's *De Bello Gallico*, and to give him a large vocabulary.

A. Includes all the declensions of nouns and adjectives, all the conjugations of regular verbs, and the simplest rules of syntax. Mj.

B. Provides (1) a review of verb forms, the conjugation of the irregular verbs and the more difficult constructions in syntax, and (2) the study of Caesar: *De Bello Gallico*, Book i, chaps. 1-30, covering the Helvetian War. Mj.

MISS PELLETT.

2. Caesar: *De Bello Gallico*.—

A. *Book ii.*—This course is intended for students who have completed course 1, but who have had no other practice in translation. Special attention is given to a review of forms and syntax. Exercises in prose composition based upon the text form a part of each lesson. Mj.

B. *Books iii-iv.*—Continues the above. The more difficult Caesarian constructions are carefully studied, and further practice is given in prose composition. Mj.

C. *Book i.*—The latter part of Book i, the war with Ariovistus, is read. While forms, syntax, and prose composition continue to be studied, indirect discourse receives special attention. M.

MISS PELLETT.

3. *Viri Romae.*—A series of twenty lessons based upon the interesting stories of early Rome; open to those who have completed course 1 or its equivalent, and who desire to increase their vocabulary and acquire facility in reading Latin. M. MISS PELLETT.

4. *Nepos.*—Like course 3 in aim and prerequisites. M. MISS PELLETT.

5. *Cicero: Orationes.*—

A. *In Catilinam, i-iv.*—This course includes translation, a review of forms and of more difficult constructions, exercises in Latin composition based upon the portion of text assigned in each lesson, and the history of the period. Mj.

B. *Pro Lege Manilia* and *Pro Archia.*—Continues A and includes a careful study of the literary style of Cicero, of all historical references, and exercises in prose composition based upon the portion of text assigned in each lesson. Especial attention is given to translating into good English. Mj.

MISS PELLETT.

6. *Vergil: Aeneid.*—

A. *Books i-ii.*—The work includes a study of prosody, word-derivation, constructions peculiar to the poets, and the more common rhetorical figures. Mj.

B. *Books iii-vi.*—Continues A and lays emphasis upon elegance of translation, the mythology, and the literary style of Vergil. Mj.

MISS PELLETT.

7. *Selections from Roman Writers.*—This course will be of advantage to those who wish to become acquainted with the style of different Roman writers. Mj. MISS PELLETT.

8. *Prose Composition Based on Caesar.*—This course affords (1) practice in writing Latin in connected passages based on Caesar's *De Bello Gallico*, (2) a thorough review of grammatical forms and constructions found in the *De Bello Gallico*; (3) a careful study of synonyms. As the course is informal, special attention can be given to any subject in which the student is deficient. M. MISS PELLETT.

9. *Prose Composition Based on Cicero.*—Like course 8, using the orations as a basis. M. MISS PELLETT.

NOTE.—The courses 1-9 are intended for three classes of students: (1) those who are preparing to enter college; (2) those who wish to study Latin for their own benefit; (3) teachers of Latin who from the topics and questions in each lesson can receive suggestions for their own work, e.g., the points to be emphasized at different stages in Caesar, Cicero, and Vergil.

COLLEGE

10. *Cicero: De Senectute.*—The entire essay is read with studies in syntax and exercises in prose composition based upon the text of each lesson. M. MISS PELLETT.

11. *Terence: Phormio.*—This play, as a specimen of the highest development of Roman comedy, is carefully studied with regard to composition, presentation, etc. Attention is also given to vocabulary, metrical treatment, and ante-classical forms and constructions. M. MRS. BEESON.

12. *Livy.*—The twenty-first book and a large part of the twenty-second, describing Hannibal's expedition against Rome up to Cannae, are read, with accompanying studies in literary style and syntax and exercises in prose composition, based in each case upon the portion of text assigned in each lesson. Mj. MRS. BEESON.

13. *Horace: Odes, Books i-iii.*—This course includes: commentary upon the details of each ode, syntactical, historical, illustrative, etc.; translations, analysis of thought, and general interpretation; and a study of the metrical form.

A list of general topics, material for the study of which is to be found in the odes, is presented at the outset, and the student is expected to select one of these for his especial study. Mj. PROFESSOR MILLER.

14. The Latin Subjunctive.—The course presents a systematic treatment of the subjunctive according to the latest scientific theories. All the forms found in preparatory Caesar or Cicero are classified. The student may choose to classify the forms either in Caesar or in Cicero, or in such a combination of the two as shall be equivalent in amount to either. The course is intended primarily for teachers. Mj. MISS PELLETT.

15. Advanced Prose Composition.—The course offers to teachers and others an opportunity to perfect themselves in Latin syntax, sentence and paragraph structure. The exercises are graded from simple passages in the style of Caesar to more difficult extracts in the style of Cicero. Prerequisite: three majors of college Latin. Mj. MR. SCOTT OR MR. CARR.

16. Cicero: *De Amicitia*.—Primarily a translation course, with questions based on subjects suggested by the text. The lessons will afford drill in syntax and some practice in the writing of Latin. M. MRS. BEESON.

17. Plautus.—

A. *Captivi*.—This course will deal especially with the linguistic side of Plautus. The vocabulary and scansion will be studied and ante-classical forms and constructions noted. Good idiomatic translation will be required. M.

B. *Trinummus*.—Here the literary side will be emphasized. The course will deal especially with Plautus' style, plot, and delineation of character. As in the first minor, much attention will be paid to translation. M.

MRS. BEESON

18. Tacitus: *Agricola* and *Germania*.—In the reading of these works both their historical importance and their literary merits are brought out. The course is an introduction to the language and style of Tacitus. Mj. ASSOCIATE PROFESSOR BEESON.

19. Cicero: *Epistulae*.—A study of the character and career of Cicero from the evidence afforded by the material contained in one hundred selected letters and from supplementary historical and biographical sources. The course also deals with the peculiarities of epistolary Latin and with the general subject of letter-writing in ancient Rome. Mj. MRS. BEESON.

20. Ovid.—Selections from *Epistulae*, *Amores*, *Fasti*, *Metamorphoses*, and *Tristia*. The object of the course is to make a general study of the life and works of Ovid and of his place in Roman literature. (Informal.) Mj. PROFESSOR MILLER.

21. Seneca: *Tragedies*.—The tragedies of Seneca will be studied for their style, as characteristic of the period, and their content; they will be compared with the corresponding Greek dramas, and their influence upon English drama will be touched upon. Three plays will be read from the Latin text, and the remainder from an English translation. (Informal.) Mj. PROFESSOR MILLER.

22. Horace: *Satires* and *Epistles*.—Selected satires and epistles are carefully read and analyzed, with particular regard to argument, character portrayal, style, and their place in literature. (Informal.) Mj. PROFESSOR MILLER.

23. Horace and Persius: *Satires*.—A brief review of the predecessors of Horace in the field of satire, a reading of selected satires, of Horace and Persius, with a study of the characteristic features of each. (Informal.) Mj. PROFESSOR MILLER.

24. Juvenal.—The object will be to present, through the study of selected satires, a picture of life and manners at Rome under the Early Empire. (Informal.) Mj. ASSOCIATE PROFESSOR BEESON.

25. Topical Studies in the Works of Vergil.—This course presupposes a considerable familiarity with Vergil on the part of the student. It is not a reading course, but the *Eclogues*, *Georgics*, and particularly the *Aeneid* will be the field

of investigation under various topics relating to different objects of study in the works of this author. A list of topics will be presented to the student, of which the following are typical: "Vergil's Verse and Its Metrical Peculiarities"; "Poetic Constructions in Vergil"; "Vergil as a Poet of Nature"; "The Aeneid as a National Epic"; "Vergil's Use of Metaphor and Simile." The student will be expected to select a certain number of these topics and, with them in mind, to go through the works of Vergil under direction of the instructor, collect all material bearing upon them, and present his results in finished form. The instructor will at all times furnish such aid as may be necessary and will criticize the results. (Informal.) Mj. PROFESSOR MILLER.

26. Roman Conception of the Immortality of the Soul.—This course is the study of a topic, and is based for material upon a variety of authors: Cicero's *Tusculan Disputations*, i, *De Senectute*, *De Amicitia*, *Epistulae*; Vergil's *Aeneid*, Book vi; Horace's selected odes; Ovid, Seneca, Persius, etc. (Informal.) Mj. PROFESSOR MILLER.

27. Training Course for Teachers.—The object of the course is to give the teacher working alone and often at a distance from authorities, an opportunity to appeal for assistance and advice along any lines connected with his teaching of Latin. Naturally there are some subjects which nearly all teachers find it profitable to take up in a somewhat formal way, e.g., pronunciation, translation, metrical reading, composition, etc. In addition to these, each teacher will have his own problems to discuss. The course is designed to meet these general and individual needs. (Informal.) Mj. PROFESSOR MILLER.

Members of the Latin Department will endeavor to arrange informal courses for students who are able to do work of an advanced nature, whenever practicable.

XIII. ROMANCE LANGUAGES AND LITERATURES

1. Elementary French.—In two majors is offered the equivalent of the first year of high-school work in French. The writing of French is required from the beginning.

A. The aim is to acquaint the student with the essentials of French grammar, to enable him to turn short English sentences into idiomatic French and vice versa, and to acquire some ability in translation. Mj.

B. This course (1) reviews and extends considerably the knowledge of grammatical principles and the irregular verbs acquired in the preceding major; (2) fixes it by means of exercises in composition; and (3) through drill in translation develops in the student ability to read easy French at sight. Mj.

ASSISTANT PROFESSOR NEFF.

2. Intermediate French.—The work of this course follows immediately upon that of "Elementary French—B." The books read deal with life in France and inform the student regarding the national traits and conditions. The exercises in composition take the form sometimes of a résumé on the text read, sometimes of reproduction in French of exercises based on the text. The grammar is studied inductively. Mj. ASSISTANT PROFESSOR NEFF.

3. Advanced French.—Idioms, synonyms, diction; (a) systematic review of elementary French grammar; (b) syntax; (c) reading: *Mérimée*, *La Chronique de Charles IX*; (d) composition based on the reading. Prerequisite: course 2. Mj. ASSISTANT PROFESSOR DAVID.

4. French Reading.—(A. *Modern Novels*, or B. *Modern Dramas*.)

A. *Modern Novels*.—Anatole France, *Le Crime de Sylvestre Bonnard*; Honoré de Balzac, *Eugénie Grandet*; George Sand, *La Mare au Diable*. Criticism of the novel. Prerequisite: course 3. Mj.

B. *Modern Dramas*.—V. Hugo, *Hernani*; E. Augier, *Le Gendre de M. Poirier*; A. Dumas fils, *La Question d'Argent*; E. Rostand, *Cyrano de Bergerac*. Criticism of the drama. Prerequisite: course 3. Mj.

ASSISTANT PROFESSOR DAVID.

5. Advanced French Reading.—(A. *Modern Dramas and Lyrics*, or B. *Modern Novels and Lyrics*.)

A. *Modern Dramas and Lyrics*.—The work will be based on the dramas of 4 B and selections from the lyric poets, especially Chénier, Lamartine, Musset, Victor Hugo; versification; criticism of lyric poetry. Prerequisite: course 4 A. Mj.

B. *Modern Novels and Lyrics*.—The work will be based on the novels of 4 A and selections from the lyric poets, especially Chénier, Lamartine, Musset, Victor Hugo; versification; criticism of lyric poetry. Prerequisite: course 4 B. Mj.

ASSISTANT PROFESSOR DAVID.

NOTE.—If A has been chosen in course 4, A of course 5 must be chosen; if B of course 4, B of course 5 must be chosen.

6. Cours de Style.—Principes généraux, exercices pratiques de composition française. Prerequisite: 6 majors of French or the equivalent. Mj. ASSISTANT PROFESSOR DAVID.

7. Introduction to the Study of French Literature.—A general survey of French literary activity from 1600 to 1850. Prerequisite: 6 majors of French or the equivalent. Mj. ASSISTANT PROFESSOR DAVID.

8. Molière and the French Comedy in the Seventeenth and Eighteenth Centuries.—

A. *Molière and His Contemporaries*. (17th c.) Mj.

B. *Molière's Successors*. (18th c.) Mj.

These two majors include a study of the lives of the principal authors, their influence on the theater, with intensive study of the following plays: (a) Corneille, *Le Menteur*; Molière, *Les Précieuses Ridicules*, *Tartuffe*, *Le Misanthrope*, *L'Avare*, *La Critique de l'École des Femmes*, *Le Bourgeois Gentilhomme*, *Les Fourberies de Scapin*, *Don Juan*, *Les Femmes Savantes*, *Le Malade Imaginaire*. (b) Regnard, *Le Légataire Universel*, *Le Joueur*, *Les Folies Amoureuses*; Lesage, *Turcaret*; Marivaux, *Le Jeu de l'Amour et du Hasard*, *Le Legs*, *L'Épreuve*, *Les Fausses Confidences*; Destouches, *Le Philosophe Marié*; Gresset, *Le Méchant*; Beaumarchais, *Le Barbier de Séville*, *Le Mariage de Figaro*. This is intended to familiarize the student with the masterpieces of classical comedy. Constant comparison will be made between the language of these writers and that of today, and the most unusual constructions will receive consideration. The work is conducted wholly in French. Prerequisite: course 7 or its equivalent.

ASSISTANT PROFESSOR DAVID.

9. Molière.—A critical study of all the plays of the great writer. All the reports must be written in French. This secures to the student a thorough course in advanced French composition as well as a comprehensive knowledge of Molière's work. Prerequisite: 9 majors of French. Mj. ASSISTANT PROFESSOR DAVID.

10. Old French (Elementary Course).—The importance of some historical knowledge of French as a part of the teacher's equipment is now generally recognized. Old French is also an indispensable language for research in the modern literatures. This course corresponds to course 46 in residence and may be taken to advantage by students looking forward to resident graduate work. A good knowledge of modern French is necessary, and also some knowledge of German and Latin. Texts: *La Chanson de Roland*; *Aucassin et Nicolette*; *Erec et Enide*; *La Representation d'Adam*. For reference: Nyrop, *Grammaire historique de la langue française*, Vols. I–IV. Mj. PROFESSOR JENKINS.

11. Elementary Italian.—This course is devoted chiefly to the study of Italian grammar. It includes practice in composition and in translation. The lessons are based on Grandgent's *Italian Grammar*, Wilkins' *Notes on Italian Grammar*, and Wilkins' and Altrocchi's *Italian Short Stories*. Mj. ASSOCIATE PROFESSOR WILKINS.

12. Intermediate Italian.—The main object of this course is to enable the student to understand written Italian thoroughly and readily. The work is chiefly in translation. Goldoni's *La locandiera* and part of Manzoni's *I promessi*

sposi are read as carefully as possible, and one or two other books are assigned for more rapid reading. The course includes also some practice in composition. Prerequisite: course 11 or its equivalent. Mj. ASSOCIATE PROFESSOR WILKINS.

13. Elementary Spanish.—This course is designed to enable the student to attain a clear conception of the fundamental principles of Spanish grammar and syntax. All the lessons furnish practice in turning Spanish into English and English into Spanish. Mj. ASSISTANT PROFESSOR ENKE.

14. Intermediate Spanish.—This course consists of (1) a more detailed study of the principles of Spanish grammar, as presented in Ramsey's *Textbook of Modern Spanish*; (2) the writing of sentences illustrating these principles; (3) the careful reading of about 350 pages of simple Spanish prose, including Padre Isla's version of *Gil Blas*, Hill's *Spanish Tales for Beginners*, and *Zaragüeta* by Carrión-Aza, special attention being directed to points of syntax, idiomatic expressions, and synonyms; and (4) exercises in prose composition based on the reading assignments. Prerequisite: course 13 or its equivalent. Mj. ASSISTANT PROFESSOR ENKE.

15. Spanish Prose Composition.—This course is designed to give the student a practical command of Spanish as a medium of expression. It may be varied to adapt it to the needs of the student, now tending more to commercial forms of composition, now to those forms used in literature or by the traveler. Prerequisite: course 13 or its equivalent. Mj. ASSISTANT PROFESSOR ENKE.

16. Modern Spanish Novels and Dramas.—This course is intended to fit students for the appreciative reading of the best modern Spanish literature. It includes the careful reading of about 450 pages of fairly difficult modern Spanish prose and verse, including *La Familia de Alvarado* by Fernán Caballero, *José* by Palacio Valdés, and *Guzmán el Bueno* by Gil y Zárate, special attention being directed to (1) the more difficult points of syntax; (2) translation into Spanish of selections based on the reading; and (3) abstracts of the reading assignments to be written in Spanish. Prerequisite: course 14 or its equivalent. Mj. ASSISTANT PROFESSOR ENKE.

17. Don Quixote.—This is mainly an interpretative and critical reading course, embracing the first fourteen chapters of the first part and the first ten chapters of the second part of "Don Quixote." The life of Cervantes and the literary movement of his time will be noticed. In the reading, the peculiarities of syntax, style, and diction, as compared with later Spanish, will be studied. A bibliography of the more important works will be given, enabling the student who may wish to make a more extensive study of the author to do so. Prerequisite: course 16 or its equivalent. Mj. ASSISTANT PROFESSOR ENKE.

XIV. GERMANIC LANGUAGES AND LITERATURES

1. Elementary German.—In two majors is offered the equivalent of the first year of high-school work in German. The writing of German is required from the beginning.

A. This course aims to ground the student in the essentials of German grammar through the reading of easy idiomatic German and exercises in which special attention is given to the construction of the verb, noun, and adjective. Mj.

B. Continues and extends A to include the passive voice and the subjunctive, and calls for extensive reading of easy prose. Mj.

ASSISTANT PROFESSOR VON NOÉ.

2. Review of First-Year German.—The course provides a thorough review of as much of the elementary grammar and syntax of the language as is usually presented in the first year of standard high-school work. It will appeal especially to students who desire to renew their acquaintance with the fundamentals preparatory to further study of German and to those who have acquired their knowledge of the tongue by some natural method. [This course is interpolated in the regular sequence and does not command credit: the charge for it is \$16 regardless of combination.] ASSISTANT PROFESSOR GRONOW.

3. Intermediate German.—Devoted primarily to the reading of easy modern prose, and incidentally to a rapid review of elementary German grammar. The text read will always serve as the drill-ground for grammar work. Attention will be directed constantly to German idiom, and from time to time the student will be required to reproduce in German what he has read. In the composition work emphasis will be laid upon word order and sentence structure, the knowledge of which is essential to the proper appreciation of the language. Mj. ASSISTANT PROFESSOR GRONOW.

4. Elementary Prose Composition.—Through the reproduction of ordinary narrative English into German and by means of original composition, the student is led to appreciate the difference between English and German idiom. The course also provides a comprehensive review of the grammar and syntax of the language. Mj. ASSISTANT PROFESSOR GRONOW.

5. German Idioms and Synonyms.—The course comprises the study of (1) the method of word formation; (2) grammatical idioms; (3) synonyms, together with a thorough review of syntax. Attention is given to German-English cognates. Composition based upon selected modern German prose affords the basis of instruction. The course will be helpful to those who teach the language in secondary schools. Mj. ASSISTANT PROFESSOR GRONOW.

6. Modern German Dramas.—This is primarily a reading course corresponding to course 6 in residence. It aims at the acquisition of the foundations of idiomatic German on the basis of the language of the dramas read. A short theme in German on the subject chosen from the reading is required with each lesson. Mj. DR. PHILLIPSON.

7. Scientific German.—The aim of the course is to enable the student to read German scientific prose. It has the same prerequisites as the preceding course. Short exercises in German composition connected with the text are required. This course is of special value to students of medicine. Mj. ASSISTANT PROFESSOR VON NOÉ.

8. Deutsche Aufsätze und Stilübungen.—An advanced course in composition corresponding to course 11 in residence. It includes a study of masterpieces of the best German stylists and the criticism and development of graded themes. The theme-subjects deal with German life, history, and literature. The aim of the course is to develop the student's ability in essay writing. Of special value to teachers. Mj. ASSISTANT PROFESSOR VON NOÉ.

9. Introduction to the Study of German Literature.—This course covers the ground of course 21 (A, B, and C) in residence, the first required course in German literature. Through a critical study of representative masterpieces and supplementary readings the student is introduced to the whole range of the literature and furnished some knowledge of the notable movements in it. The course is divided into two parts, either of which may be taken without the other. Prerequisite for either Major: course 8 or its equivalent.

A. This covers the field of German literature from the earliest times through Lessing. The selections from Old High German and Middle High German literature will be read in modern German translations. Mj.

B. This is a continuation of A and follows the same general plan. The works to be studied are chosen from Goethe, Schiller, Kleist, Heine, Eichendorff, Grillparzer, Hauptmann, and Sudermann. Mj.

DR. PHILLIPSON.

10. The German Short Story.—The development of the short story (*Novelle*) into an art-form is one of the most interesting phenomena of nineteenth-century literature. The study of this evolution in Germany together with the various forms of the short story extant—the dramatic, the lyric, the historical, the social, etc.—is the object of this course. The student will read, under guidance, selected stories of Kleist, Tieck, Hoffmann, Riehl, Auerbach, Rosegger, Meyer, Keller, Fontane, Lilienron, and others. Reports and essays (in German) will be required. This course may be taken by anyone who has a fair reading and writing knowledge of German. Mj. DR. VON KLENZE.

11. Heine's Prose and Poetry.—The reading of the larger part of the lyrics, the dramas, and the *Reisebilder* will be accompanied by a study of the author's life and the general tendencies of the Romantic movement, and by investigations into the poet's sources and literary technique. The course covers the ground of course 42 in residence. Prerequisite: course 9 B or its equivalent. Mj. DR. PHILLIPSON.

12. Goethe's Lyric Poetry as an Exponent of His Life.—No writer so minutely reflects his moral and intellectual growth in his lyric poetry as does Goethe. A chronological study of his lyrics affords, therefore, a subtle appreciation of his whole individuality. The student will pursue a study of the standard biographies of Goethe, together with his letters and autobiographical writings, while at the same time reading carefully the lyrics written during each period of his life. Essays in German are required throughout the course. Mj. DR. VON KLENZE.

13. Friedrich Hebbel: A Study of Modern German Drama.—Hebbel was one of the most powerful individualities of the nineteenth century and one of the most significant figures of German literature. His drama is the expression of new principles in dramatic literature, which many years later appeared in modified form in the social dramas of Ibsen. A comparison of conceptions of tragedy as found in the classic drama of the Greeks, in the Shakspearean drama, and in the work of modern playwrights will be made, in order to define as clearly as possible Hebbel's contribution. Mj. DR. VON KLENZE.

14. Deutscher Satzbau und Stil.—A sequent to "Deutsche Aufsätze und Stilübungen," corresponding to course 101 in residence. Several long themes of the type of term papers are required. Prerequisite: course 8 or its equivalent. Mj. ASSISTANT PROFESSOR VON NOÉ.

15. The Modern German Essay.—A study of the literary and historical essay of the nineteenth century combined with practical exercises in which the student will be expected to reproduce the style and diction of the authors studied. The course corresponds to course 214 in residence and is open to those who have passed creditably "Deutsche Aufsätze und Stilübungen" and "Deutscher Satzbau und Stil" or have had equivalent training in German theme writing. Of special value to graduate students and teachers who aim to acquire a high degree of efficiency in German essay writing. Mj. ASSISTANT PROFESSOR VON NOÉ.

16. Outline History of German Literature.—

A. Includes a survey of the development of German literature from the scanty remnants of the earliest period of tribal migrations, heroic romances, and early ballads, through the first period of efflorescence—the twelfth and thirteenth centuries with their troubadours and national epics; the period of Humanism and the Reformation, up to the second period of efflorescence—the eighteenth century. Mj.

B. Aims at a more detailed study of prominent writers of the eighteenth century; the Romantic Movement with its best representatives, and the most characteristic novelists, dramatists, and lyricists of the nineteenth century. A is not prerequisite to B. Mj.

DR. VON KLENZE.

NOTE.—Prerequisites for both A and B: Students taking either one of these courses must have a good reading knowledge of German as well as the ability to write it with some ease. It is advisable that at least one of the courses in some special field of German literature like "The Short Story," or "Goethe's Lyrics," or their equivalents, should precede this course.

17. Contemporary German Literature.—The course is designed to give the student an appreciation of current German Literature and to introduce him to the modern literary tendencies of the Fatherland. Representative novelists, dramatists, and lyric poets are studied. This course presupposes a good reading knowledge of German. Mj. or DMj. ASSISTANT PROFESSOR VON NOÉ.

18. Gothic.—A consideration of Gothic phonology, morphology, and syntax in connection with the reading of selections from the Bible translation of Wulfila. Intended as a review course or for those who have had philological training. Mj. PROFESSOR WOOD.

19. Old High German.—The reading of selections from Braune's *Althochdeutsches Lesebuch*, with reference to the same author's *Abriss der althochdeutschen Grammatik*. This course is a natural sequent of course 18. Prerequisite: course 18 or its equivalent. Mj. PROFESSOR WOOD.

20. Old Saxon.—The work will be based on Holthausen's *Altsächsisches Elementarbuch*. Open to those who have had courses 18 and 19 or their equivalent. Mj. PROFESSOR WOOD.

21. Old Norse-Icelandic Prose.—The purpose of the course is to offer students who have had a beginning course in Icelandic an opportunity to learn to read Icelandic prose readily. An annotated saga text providing about three hundred pages of reading matter is selected, and the student is asked to read in addition on the antiquarian and literary problems involved. During 1914-15 the *Egils saga Skallagrímssonar* will be read. Zoëga's *Old Icelandic Dictionary* is recommended. Prerequisite: Residence course 112 or its equivalent; a beginners' course involving a historical study of the sounds and inflections of the language and the reading of about 40 pages of Old Icelandic prose. This prerequisite course must itself be preceded by "Gothic." Mj. ASSISTANT PROFESSOR GOULD.

SCHOOL OF EDUCATION

22. The Teaching of German in Secondary Schools.—The method of teaching German in high schools and academies has undergone radical changes within the last few years. The object of this course is (1) to make the teacher acquainted with the new methods and their application to the teaching of pronunciation, grammar, composition, reading, and translation; (2) to furnish him an opportunity to discuss his particular problems. Mj. ASSISTANT PROFESSOR GRONOW.

XV. THE ENGLISH LANGUAGE AND LITERATURE

ELEMENTARY

1. English Grammar.—A course in practical English grammar, assuming no technical knowledge of the subject, and intended for students who need instruction or review in the fundamental principles of the language, especially with relation to the correct combination of words in sentences. In some cases this course will be desirable as preparation for the following composition courses. The work submitted to the instructor will consist mainly in the correction of faulty constructions, the analysis of sentences, and the writing of original sentences to illustrate the principles discussed in the textbook. [This course commands no credit: the charge for it is \$16. For "English Grammar for Teachers," see course 30 below.]

ASSOCIATE PROFESSOR MARSH.

ACADEMY

2. Preparatory English Composition.—

A. A simple introduction to English composition, intended mainly for the following classes of students: (1) those who have had no formal training in the subject; (2) foreigners with some knowledge of grammar, but without much experience in writing the language; (3) any persons who are not properly prepared for a more advanced course. The work is roughly equivalent to the composition requirements of the first two years of a good high school, consisting in the writing of simple themes based mainly on the student's own experience and observation, and the preparation of exercises illustrating the simpler rhetorical principles. For credit see note below. Mj.

B. A more advanced course than the foregoing, substantially equivalent to the composition work of the last two years in a good high school, and definitely

intended to prepare for college composition. Teachers in secondary schools also may find the course helpful in their work. Business and professional men whose early training has been deficient can gain valuable experience in practical composition from this course or the foregoing, according to the extent of the deficiency. The work consists of exercises illustrating all the main principles of rhetoric, and themes of a somewhat more difficult type than those asked for in course A. For credit see note below. Mj.

ASSOCIATE PROFESSOR MARSH AND MR. CHERINGTON.

3. Preparatory English Literature.—In two majors the works in English and American literature required for admission to college will be studied. The aim, however, is to make the courses valuable not only to students preparing for college, but also (1) to teachers of English in preparatory schools, and (2) to all persons who wish to take up, either for the first time or by way of review, the more simple and concrete phases of the study of literature. Those who desire the entire high-school work in masterpieces should register for the two majors in succession; those who wish to take the work for review, or to obtain help in methods of teaching the masterpieces, may choose for themselves. For credit see note below.

A. This course will cover approximately the work in literature of the first two years of the high school, with study of the simpler masterpieces among those listed "for reading" in the list of college-entrance requirements. Mj.

B. In this course the masterpieces listed "for study" will be emphasized, with attention also to some of the more difficult books among those listed "for reading." The work is approximately that of the last two years of high school and directly preparatory for college. Mj.

ASSOCIATE PROFESSOR MARSH AND MR. CHERINGTON.

NOTE.—Students who satisfactorily complete and pass the "A's" of both "Preparatory English Composition" and "Preparatory English Literature" will receive credit for the second of the three units in English required for entrance to college; those who satisfactorily complete and pass the two "B's" will receive credit for the third of the three units.

Commercial Correspondence.—(Cf. description under English 33.) M. ASSOCIATE PROFESSOR LYMAN.

COLLEGE

4. English I.—This is designed to be a full equivalent of English 1 (the first course in English composition and rhetoric required of all students in residence) and commands corresponding credit. It presupposes the ordinary training in English composition received in a good high school, and represented in a general way by the preceding courses. More detailed study of the principles of rhetoric, as presented in a more advanced textbook, is made; and a higher standard of theme work, on a variety of topics usually chosen (subject to certain limitations) by the student himself, is expected. The emphasis throughout is placed upon writing of the most practical sort. The course is newly revised with use of a volume of prose selections along with a very recent textbook. Mj. ASSOCIATE PROFESSOR MARSH.

5. English III.—This course is designed to be a full equivalent of English 3 (the second course in English rhetoric and composition required of all students in residence) and commands corresponding credit. The course aims (1) to give training in structure, and (2) to give instruction and practice in the four forms of composition—exposition, argumentation, description, and narration. To these ends a textbook is required, lesson papers must be submitted, and a final examination taken. The written work will consist of six long themes each from 1,500 to 3,000 words in length, and twelve short themes of from 100 to 200 words each in addition to exercises based on the textbook. Students may gain admittance to the course by passing creditably "English I," or by submitting to the instructor an original exposition or argument showing ability. Mj. DR. HULBERT.

6. English IV.—

A. *Exposition—Argument*.¹—Instruction will be given in pure argument, in the technique of debate, and in persuasive exposition. The work consists of (1) the writing of papers on the theory of these forms of composition; and (2) the writing of two briefs, two arguments, and two expositions. Mj. ASSISTANT PROFESSOR KNOTT.

B. *Story-Writing*.¹—A course of two Majors replacing the single Major entitled "Narrative and Descriptive Writing" as formerly given. It is designed to teach the principles of story-writing with particular reference to the short story. The textbook has been prepared by Mr. Grabo to meet the particular needs of correspondence-study students.

1. Includes: an autobiography; exercises to bring out the essentials of narrative; exercises in the point of view; exercises in the study of the unities of action, time, and place; exercises and studies in exposition and preparation; a study of short-story introductions; study of and exercises in character drawing; descriptions of persons and places; a study of the writing of dialogue. Original character sketches, descriptions, themes in dialogue, and several short stories will be demanded in this half of the course. It aims to bring out the fundamentals of story structure and is designed for those who desire to write either short stories or novels. Considerable reading in specified standard novels and short stories is demanded. Mj.

2. Continues 1 and takes up: a study of story ideas; construction of plots to illustrate various types of stories; a consideration of titles and the names of characters; a study of suggestion and restraint; a study of unity of tone; a study of the psychology of story-writing. In this Major more analyses of stories are asked for than in the first; more attention is paid to the development of plot, and more original work in the short story is expected. Reading of short stories and novels is required—a bibliography of these is furnished with the lessons. Prerequisite: English IVB-1, but those who have received credit for "Narrative and Descriptive Writing," the English IVB of preceding years, will be permitted to register for this Major. Mj.

MR. GRABO.

C. *Journalistic Writing*.¹—Study is made of the News Story, the Book Review, the Editorial, and the Feature Story. The forty lessons constituting the course include (1) critical exercises and (2) original work upon topics assigned by the instructor or approved by him from lists submitted by the student. A text is used as a basis for a part of the work. The student is expected to study the form of news stories and editorials in at least one good newspaper, to follow current topics in several of the best magazines, and to gather some of the material for his papers (notably the feature stories) from first-hand observation. Mj. MR. GRABO.

7. *English V.—Magazine Writing*.¹—A course of forty lessons embracing the study and the writing of the Special Article, Literary Criticism, and the Personal Essay. The student will be required to read examples of these forms and to submit analyses of them. A volume of selected essays will serve as a text for the latter part of the course. Mj. MR. GRABO.

8. *English VI.—Advanced Composition*.—For students who have credit for a Major of "English IV" or for "English V" and who are desirous of receiving criticism upon essays, stories, or articles. There are no lessons or exercises, the sole requirement being that the student submit 30,000 words of original matter. The initiative lies solely with the student; the instructor confines himself to criticism and advice. It is essential that any student entering this course have definite work in mind. Others than graduates of "English IV" or "English V" will be admitted only upon the submission of MS displaying a technique adequate to the course. Mj. MR. GRABO.

¹This course is open to others than graduates of "English III" who can present evidence, in the form of a statement of previous work and original productions, that they are prepared for it.

9. The Forms of Public Address.—This course though prepared especially for teachers of English interested in the oral side of the work is intended also for students of public speaking. It gives training in the most essential principles of constructive thinking, writing, and speaking, and includes gathering of information, organizing it for a definite purpose, and presenting it to meet varying conditions. It also embraces a study of the most common fallacies. In these ways the problem of organizing one's thought for public presentation, either in speech or in writing, is approached inductively through the careful analysis of certain masterpieces of public address. Among the forms studied are the following: the argument, the eulogy, the editorial, the commemorative address, the dedication, the toast, the after-dinner speech. Each student will be allowed reasonable leeway in selecting the particular form or forms of address he wishes to study intensively. Prerequisite: "English I" or its equivalent. Mj. ASSOCIATE PROFESSOR LYMAN.

10. The Development of English Literature.—This course is designed to be the full equivalent of course 40 in residence, the first required course in English literature. It introduces the student to the whole range of English literature by requiring the reading of selected masterpieces from *Beowulf* to the present time. Two volumes of selections from English authors, one of prose and one of poetry, and a short history of English literature are used as the basis of study. The aim is: (1) to give the student first-hand acquaintance with typical parts of the work of each of the leading English writers; (2) to study the place of the masterpieces in the development of English literature, in their relation not only to one another but also to historic events and conditions; (3) to give the student the foundation for an appreciation of literature. The course as a whole affords a broad introduction to the more detailed and critical study undertaken in "English Literature by Periods." Mj. ASSOCIATE PROFESSOR MARSH.

11. An Introduction to American Literature.—A series of studies of American life in American literature. The first few lessons are given over to pre-Revolutionary literature for the purpose of observing the earliest departures from English models and traditions. Chief emphasis is, however, thrown on the poets, essayists, and novelists of the nineteenth century. While the aim of the course is to put the student in the way of obtaining a preliminary acquaintance with the subject as a whole, assigned readings are restricted to selected works of twelve or fifteen representative men of letters, from Irving and Cooper to Lanier and Whitman. Mj. ASSISTANT PROFESSOR DAVENPORT.

NOTE.—For admission to any one of the following courses, course 10 or its equivalent is prerequisite.

12. An Introduction to the Study of Shakspeare.—This course, corresponding to course 41 in residence, is planned to give the student a knowledge of Shakspeare's life and work, a familiarity with typical plays of the various periods in his dramatic career, some acquaintance with his relation to his age and its literature, and an introduction to the fields of Shakspearean criticism and scholarship. Especial attention will be paid to Shakspeare's handling of character and plot, to the development of his taste and technique, and to the influence exerted upon him by the literary and the social trends of the time. The following plays will be studied: *Richard III*, *A Midsummer-Night's Dream*, *Romeo and Juliet*, *I Henry IV*, *Much Ado about Nothing*, *Twelfth Night*, *Hamlet*, *King Lear*, *Antony and Cleopatra*, and *The Tempest*. Mj. ASSISTANT PROFESSOR BASKERVILL AND MRS. BASKERVILL.

13. English Literature by Periods.—A series of reading courses, corresponding to courses 42-48 in residence, which cover with some minuteness the history of English literature from the middle of the sixteenth century down to 1892. In each major the work consists mainly in the reading of a large number of representative masterpieces of the period, and the preparation of answers to questions based upon this reading. Textbook work in a literary history of each period is assigned and the lesson sheets furnish much supplementary material, such as bibliographies of the required authors, suggestions for study of their principal works, etc. It is not necessary that the series be taken in chronological order,

as each course is complete in itself; but those intending to take the whole series are advised to follow the chronological order. The series as a whole is designed to give first-hand knowledge of the chief masterpieces of modern English literature, excepting only Shakspeare's works, which are treated in special courses. Persons who have had course 10 or its equivalent, and who desire to do systematic reading of English literature without regard to college credit, may also arrange for any of these courses.

A. *English Literature from 1557 to 1642*.—Reading of Spenser (at least one book of the *Faerie Queene* and various shorter poems), Wyatt, Surrey, Sackville, Sidney, Herrick, Milton (minor poems), and other poets; plays by Marlowe, Jonson, Beaumont and Fletcher, and lesser dramatists both before and after Shakspeare; Ascham's *Schoolmaster*, portions of Lyly's *Euphues* and other works of fiction, Sidney's *Defence of Poesie*, Bacon, Raleigh, and Sir Thomas Browne. Mj.

B. *English Literature from 1642 to 1744*.—Reading of representative prose works of Milton, Taylor, Walton, Pepys, Clarendon, Bunyan, Dryden, Addison, Steele, Defoe, and Swift; poems of Milton (four books of *Paradise Lost*, *Samson Agonistes*, etc.), Dryden, Pope, Thomson, and numerous minor poets; plays by Dryden, Otway, Congreve, Wycherley, and other Restoration dramatists. Mj.

C. *English Literature from 1744 to 1798*.—Reading of novels by Richardson, Fielding, Smollett, Sterne, Johnson, Goldsmith, the so-called "Gothic" romancers, and Fanny Burney; miscellaneous prose by Johnson, Goldsmith, Boswell, Gibbon, and Burke; poems by Gray, Collins, Goldsmith, Chatterton, Blake, Cowper, Crabbe, Burns, and others; plays by Goldsmith and Sheridan. Mj.

D. *English Literature from 1798 to 1832*.—Poems by Wordsworth, Coleridge, Southey, Scott, Campbell, Moore, Byron, Shelley, Keats, Hunt, Hood, Landor; novels by Scott and Jane Austen; miscellaneous prose by Coleridge, Lamb, Hazlitt, DeQuincey, the reviewers, etc. Mj.

E. *English Literature from 1832 to 1892*.—Reading of numerous poems by Tennyson, the Brownings, Matthew Arnold, Clough, the Rossettis, Swinburne, Morris, and others; novels by Dickens, Thackeray, Charlotte Brontë, George Eliot, Meredith, Hardy, and Stevenson; miscellaneous prose by Carlyle, Macaulay, Newman, Arnold, Pater, Ruskin, and Stevenson. Mj.

ASSOCIATE PROFESSOR MARSH.

Courses A-E (or their equivalents) are required of all candidates for the Doctor's degree in English, and at least four of them (or equivalents) for the Master's degree. Hence, though a year of resident study is required for the Master's degree, students may take these required courses by correspondence and later do more highly specialized work in residence. Graduate credit will be given to properly prepared students, who do creditable work in their recitation papers and pass the final examination given on each course. Students not entitled to graduate credit, moreover, may register for any of the courses, the only prerequisite being course 10 or its equivalent.

14. *The Elizabethan Drama*.—This is a series of courses intended to give the student a familiarity with the dramatic movement in England which reached its zenith in Shakspeare. Besides involving a close study of Shakspeare's plays and some of the greater plays of his contemporaries, early and late, these courses deal with the formative influence of contemporary life and thought upon the drama; with Elizabethan dramatic criticism and its more important results, especially as they concern Shakspeare; with matters of literary taste; with the handling of character and plot; with sources and relations; etc. The courses are arranged to give practically a chronological sequence in the study of types, writers, and plays, including the plays of Shakspeare, but each course is treated as a unit and may be taken separately.

A. *Shakspeare's Predecessors*.—This course, which corresponds to course 84 in residence, includes a brief introductory survey of the mediaeval drama; a more detailed consideration of the Renaissance drama as influenced by the Reformation and humanism, and of the development of new types and new theatrical conditions; and finally a more intimate study of the development of a native romantic drama as revealed in Lyly, Peele, Kyd, Green, and Marlowe. Mj.

B. Shakspeare's Early Period (1590-96).—In this course the experimental comedies, the first group of chronicle plays, and the early masterpieces of Shakspeare are studied. The details of his life, the growth of his art, the influence of theatrical conditions on his work, and his imitation of contemporary dramatists are considered. The plays studied are: *Love's Labor's Lost*, *The Comedy of Errors*, *The Two Gentlemen of Verona*, *Henry VI*, *Richard III*, *King John*, *Richard II*, *Titus Andronicus*, *A Midsummer-Night's Dream*, *Romeo and Juliet*, and *The Merchant of Venice*. Mj.

C. Shakspeare's Middle Period (1596-1603).—This course is organized to include chiefly the comedies of the middle period of Shakspeare's life—the Falstaff chronicle plays, the witty comedies, and the satiric comedies at the beginning of his tragic period. Especial attention is paid to the structure of comedy and to Shakspeare's reflection of social life. The plays studied are: *The Taming of the Shrew*, *I and II Henry IV*, *Henry V*, *The Merry Wives of Windsor*, *Julius Caesar*, *Much Ado about Nothing*, *As You Like It*, *Twelfth Night*, *Troilus and Cressida*, *All's Well That Ends Well*, and *Measure for Measure*. Mj.

D. Shakspeare's Later Period (1603-11).—In this course the great tragedies and the final comedies are studied, with especial emphasis on the art and structure of tragedy and the dramatic seriousness of Shakspeare's work. The plays dealt with are: *Hamlet*, *Othello*, *King Lear*, *Macbeth*, *Timon of Athens*, *Pericles*, *Antony and Cleopatra*, *Coriolanus*, *Cymbeline*, *A Winter's Tale*, *The Tempest*, and *Henry VIII*. Mj.

E. Shakspeare's Successors.—This course, the equivalent of course 85 in residence, deals with the history of the English drama from 1600 to 1642. The rise of the comedy of humors and of manners, the perfection and the decadence of tragedy, and the later phases of romantic comedy are treated. Masterpieces of Jonson, Dekker, Heywood, Beaumont and Fletcher, Middleton, Webster, Massinger, Ford, and Shirley are studied, with attention not only to the characteristics of these writers but to their interrelations, their influence on the course of the drama, and their reflection of social conditions. Mj.

ASSISTANT PROFESSOR BASKERVILL AND MRS. BASKERVILL.

NOTE.—Course 12 or its equivalent is prerequisite for any one of the five majors of course 14.

15. The Growth of the English Novel.—The historical development of narrative prose fiction in English is traced in outline from the later mediaeval prose romancers and story-tellers to the beginning of the twentieth century. A brief preliminary review of the field of fiction is attempted in the initial lessons—the qualities shared by novelist and poet, the material common to both, the similarities in general construction of the novel and drama; and throughout, the continental influences are noted, sources inquired into, and the modifications in structure and content of the novel in succeeding periods are indicated. Illustrations of the various aspects and principles of the art of fiction are drawn from the representative works selected.

A. From Sir Thomas Malory to Oliver Goldsmith.—In this course one work of each of the following authors is read: Malory, Lyly, Sidney, Lodge, Greene, Nashe, Bunyan, Defoe, Swift, Richardson, Fielding, Smollett, Sterne, and Goldsmith. The character-sketch of the seventeenth century, and its extension by Steele and Addison in *The Spectator*, are briefly dealt with, as are other literary forms which contributed to, or tended to shape, the modern novel. Mj.

B. From Mrs. Radcliffe and Godwin to Stevenson and Kipling.—Beginning with the reappearance in England of romantic prose fiction—the "School of Terror," or the "Gothic" romance, and the "School of Theory," doctrinaire or revolutionary—one work of each of the following authors is read: Walpole, Mrs. Radcliffe, Godwin, Fanny Burney, Maria Edgeworth, Jane Austen, Scott, Cooper, Hawthorne, Lytton, Dickens, Thackeray, Kingsley, Trollope, Reade, Charlotte Brontë, George Eliot, Meredith, Hardy, Stevenson, and Kipling. The course concludes with a brief consideration of fiction as affected by the scientific movement of the nineteenth century, particularly by physiology and psychology. Mj.

MRS. GRAHAM.

16. The Life and Works of Spenser.—The course corresponds to course 69 in residence, and is for advanced, though not necessarily graduate, students. The *Faerie Queene* and the minor poems; allegory; the poet's versification; his position and significance with respect to mediaevalism, the Renaissance, and especially Elizabethan poetry are considered. Mj. ASSISTANT PROFESSOR KNOTT.

17. The Life and Works of Wordsworth.—A more detailed examination of the poet's most significant work, especially the *Prelude* and the lyrical ballads, and their significance with relation to the Romantic Movement. Prerequisite: course 13 D, "English Literature from 1798 to 1832." M. ASSISTANT PROFESSOR KNOTT.

18. The Works of Robert Browning.—The work of this "incorrigible optimist" offers unusual problems in subject-matter and in form. The peculiarities of his style, and the varied forms in which he wrote present abundant material for the study of technique, and of general principles of literary art.

A. *Studies in the Early Poems.*—This course gives detailed consideration to the poems published before 1868, thus including much of Browning's most characteristic and suggestive work. M.

B. "*The Ring and the Book*" and *Dramas*.—M.

ASSISTANT PROFESSOR DAVENPORT.

19. Studies in the Poetry of Tennyson.—The course deals with the most significant works of this representative nineteenth-century poet. Especial attention is given to his place in the development of English poetry, to the characteristic qualities of his verse, and to his close relation to the general currents of thought in his time. The study includes the early poems, *Maud*, *In Memoriam*, *The Idylls of the King*, and minor poems. M. ASSISTANT PROFESSOR DAVENPORT.

20. Representative English Essayists of the Nineteenth Century.—An advanced undergraduate study of six essayists, including a brief preliminary discussion of the appearance in England of the essay, and its development as a literary form. The work is based upon typical essays of Lamb, De Quincey, Macaulay, Carlyle, Ruskin, and Arnold. Newman or Hazlitt may be substituted for De Quincey if desired. The method of study is the biographical and historical, and to a limited extent the philosophical. Emphasis is laid upon the intimate relation of literature to the forces of social life. Mj. MRS. GRAHAM.

21. The Makers of American Literature.—This course embraces a study of Emerson, Whittier, Longfellow, Lowell, Holmes, and Hawthorne—the representative writers of that period of intellectual activity in New England which roughly corresponds with the first half of the Victorian era. The various ways in which this activity expressed itself—in oratory, scholarship, Unitarianism, transcendentalism, and reform—are incidentally examined in so far as they affected or were affected by these writers. Sufficient attention is given to the general history of American literature to make this period intelligible to the student. Mj. MRS. GRAHAM.

22. The Short Story in English and American Literature.—In connection with a brief résumé of the history of the short story in England and America, students will read, critically, a number of representative stories by Irving, Hawthorne, Poe, Dickens, Bret Harte, Henry James, Page, Cable, Stockton, Davis, Mary E. Wilkins, Hardy, Doyle, Stevenson, Kipling, and others. The critical study will be devoted principally to investigation of the methods by which effectiveness is secured. Mj. ASSOCIATE PROFESSOR MARSH.

23. Modern Realistic Fiction.—This course is designed to present the content and method of a typical group of realistic novels. The following works, or their equivalents, will be read: George Eliot's *Silas Marner*, Hardy's *Tess of the D'Urbervilles*, Ward's *Lady Rose's Daughter*, Howells' *A Modern Instance*, Meredith's *The Egoist*, Tolstoi's *Anna Karenina*, Zola's *L'Assommoir*, Frenssen's *Jörn Uhl*, Barrie's *Tommy and Grizel*, Fogazzaro's *The Patriot*. Mj. ASSISTANT PROFESSOR DAVENPORT.

24. Contemporary Literature and Current Problems.—This course is designed as an untechnical survey of contemporary novels, plays, and essays that reflect the changing social, political, and ethical conventions of the day. Effort will be made to trace them, as far as possible, to such nineteenth century influences as Nietzsche, Ibsen, Maeterlinck, Shaw, and the socialist, anarchist, and decadent movements. Particular attention will be paid to the conflict of ideas popularly embraced under the head of "feminism"; to the present resurgence of individualism; to the aesthetic problems of present-day realism. The course will be based upon typical works by such novelists as Bennett, Wells, Galsworthy in England, and Herrick, Edwards, Dreiser in America; by such dramatists as Barker and Houghton; by such essayists as Walter Lippman, Mrs. Gilman, Olive Schreiner, and Ellen Key. Although outlines will be used, anyone entering this course should be capable of forming independent judgments of the works studied. Mj. MRS. GRAHAM.

25. The Irish Literary Revival.—A study in the literature of the modern Celtic revival presupposes some acquaintance with Celtic myth, legend, and romance. The course, therefore, begins with this subject, following with the living folk literature, fairy tales, folk tales and songs, and then passing to the work of the modern poets and dramatists. Yeats, Synge, Hyde, Lady Gregory, Ethna Carberry, and other writers will be read. M. ASSISTANT PROFESSOR DAVENPORT.

26. The Principles of Literary Criticism.—This course presents and compares some of the most influential critical tenets; examines the relations of literature to other arts, and the support given to criticism by recent studies in the psychology of artistic production. Mj. ASSISTANT PROFESSOR DAVENPORT.

27. Elementary Old English.—An introduction to the reading of Old English, corresponding in a general way to course 21 in residence. Mj. ASSOCIATE PROFESSOR MARSH.

28. Advanced Old English.—*Beowulf*.—An informal course in which the whole of the poem is read. Mj. ASSOCIATE PROFESSOR MARSH.

29. Introduction to Chaucer.—May be taken by students who have had no training in Middle English. Along with the reading of selected poems, there will be study of the main facts regarding Chaucer and his works. Mj. ASSOCIATE PROFESSOR MARSH.

SCHOOL OF EDUCATION

30. English Grammar for Teachers.—A much more advanced course than the one numbered 1, above. The recommendations of the Joint Committee on Grammatical Nomenclature are embodied. Some stress will be laid on the textbooks available and on the problems with which teachers have to deal. Mj. ASSOCIATE PROFESSOR MARSH.

31. The Teaching of English Composition in Secondary Schools.—This course will include a survey of methods in American and foreign schools, and will outline the problems involved in teaching adolescents the art of literary expression. These problems arise mainly from three circumstances: first, the fact that composition is at the same time a fine art and a tool in every-day business intercourse; second, that like the teaching of literature it is based on the psychology of adolescence; and third, that it is a most important agent in education, being the readiest medium of self-expression. Mj. ASSISTANT PROFESSOR DAVENPORT.

32. The Teaching of English Literature in Secondary Schools.—This course proposes a definite aim in teaching based on the function of art in education. The main topics involved are the place of literature in general culture, its special relations to adolescence, the psychology of adolescence, the course of study, and methods of study. Mj. ASSISTANT PROFESSOR DAVENPORT.

33. Commercial Correspondence.—A course of twenty lessons in business letter-writing designed for teachers who are interested in the vocational and

practical aspects of their subjects, especially teachers of English and of commercial branches. It is intended also for those who desire practical instruction in business writing. The course deals with the argumentative, persuasive, rhetorical, and formal elements of commercial correspondence. Some of the topics considered are: how a letter is read; the value of paragraphing; the first sentence; mistakes in language; the negative and the positive suggestion. The following special forms are studied intensively from models: acknowledgments, remittances, notices of shipment, adjustment, credit, collection, recommendation, application, sales. M. ASSOCIATE PROFESSOR LYMAN.

Forms of Public Address.—(Cf. description under English 9.) Mj. ASSOCIATE PROFESSOR LYMAN.

NOTE.—Related courses will be found in Departments XVI, CLI.

XVI. GENERAL LITERATURE

This Department offers work to two distinct classes of students: (1) those doing graduate work in comparative literature, for whom a knowledge of the original languages and some previous training in literature are indispensable; (2) those doing undergraduate work, who wish to become acquainted with foreign literatures for the purpose of general culture, and for whom a reading knowledge of the original languages, though desirable, is not necessary. The courses presuppose "English I" and "The Development of English Literature" or their equivalent.

1. Masterpieces in World Literature.—This course falls in section C of the Department of General Literature in which literature is treated as general culture rather than as specialized study, hence no knowledge of any language other than English is required. Moulton's *World Literature* will furnish the general point of view, the historic and literary background for the course. This will be supplemented by the reading, wholly or in part, of selected masterpieces, among which will be the five literary Bibles recognized in the textbook—the Holy Bible, Classic Epic and Tragedy, Shakspere, Dante and Milton, and versions of the story of Faust. There will also be readings in comparative literature, studies in collateral literature, and a survey of strategic points in the development of literature as a science. As an equivalent to General Literature 1 in residence, it is primarily a college course but it is also admirably adapted to the needs of the general reader. Books for the required work may be found in any well-selected library or may be borrowed from the University by arrangement with the Director of the Libraries. Mj. PROFESSOR MOULTON and MISS SCHRADER.

2. The Literary Study of the (English) Bible.—This course is intended for those who teach or expound the Bible, and for those who merely read it as a part of universal literature. The aim of the course is (1) to familiarize the student with the literary forms found in the Scriptures, under the general divisions of Lyric Poetry, History with Epic, Wisdom Literature, Prophecy, and forms of Address; (2) to show how the separate books of the Bible when read in their literary sequence, draw together with a literary connection like the unity of a dramatic plot. Moulton's *The Modern Reader's Bible*—in which the books of the Bible with three of the Apocrypha are edited in modern literary form—and Moulton's *The Literary Study of the Bible* are the required texts. Mj. PROFESSOR MOULTON and MISS SCHRADER.

3. Dante and Milton.—The purpose of this course is to familiarize the student with the special significance of Dante as an interpreter of Mediaeval Catholicism and of Milton as a revealer of Renaissance Protestantism. The study will include a brief survey of the life and early work of each of the poets, but emphasis will be placed upon the *Divina Commedia* and *Paradise Lost* as these embody the spirit of progressive civilization. Special attention will be given to the structure of the poems as related to the matter presented; to the aspects of good and evil as interpreting the philosophical thought of Mediaevalism and the Renaissance; and to the elements of creative excellency which give

to both Dante and Milton a place among the supreme poets of the world. For the study of Dante, Plumptre's metrical translation is recommended, but the prose translation of C. E. Norton may be used; for the study of Milton, the Cambridge edition of *Milton's Poetical Works* will be used. The required work of the course is based upon matter contained in the texts, but bibliographies are included and recommended readings are cited to aid the student who desires to supplement the required work with more exhaustive study. Mj. Miss SCHRADER.

4. Studies in Modern Drama.—In the drama produced in England and on the continent since Ibsen began to write, opportunity is offered for the study of some of the most significant and representative literature of our time. This course offers plays by Ibsen, Bjornsen, Strindberg, Sudermann, Hauptmann, D'Annunzio, Tchekhof, Phillips, Jones, Pinero, Shaw, Galsworthy, Moody, Rostand, Echegaray, Yeats, Synge, and Maeterlinck. Mj. ASSISTANT PROFESSOR DAVENPORT.

5. Homer and Ancient Tragedy for English Readers.—The aim of this course is to present Greek epic and tragedy from a purely literary point of view. It will include a study of the poetic heroes of the Argonautic Expedition and of the Trojan War. The works will be read in translation and in the order of the story sequence rather than in the chronological order of their authorship. Under the myth of the first generation *The Argonauts* of Apollonius, *Medea* of Euripides, and *Jason* of William Morris (a modern reconstruction) will be read. A larger selection of works will be included under the myth of the second generation, including the *Iliad*, the *Odyssey*, and tragedies of Aeschylus, Sophocles, and Euripides that touch the story of the Trojan War. Besides noting the place these works occupy in the progressive development of a story sequence, both epics and tragedies will be studied with reference to structure and general technique. Vergil's dependence upon Homer and his influence upon mediaeval literature will also be noted. Mj. PROFESSOR MOULTON AND MISS SCHRADER.

6. German Literature (in English).—This course attempts a survey of the principal movements in German Literature from its first appearance to the present day. Representative authors are studied and constant attention is given to the connection of social and intellectual life with German poetry. Mj. DR. PHILLIPSON.

XVII. MATHEMATICS

ELEMENTARY

1. Complete Arithmetic.—This course is intended as a review of the general principles of arithmetic. While serving the student, it will be helpful to grade teachers preparing for examination. Part I treats of general number, the four fundamental operations, factoring, fractions, and practical applications of denominate numbers. Part II drills upon the applications of percentage, and actual methods of modern business. Part III considers ratio and proportion, powers and roots, mensuration, and the metric system. Numerous problems are given to illustrate all points. [This course does not command credit: the charge for it is \$16.] ASSOCIATE PROFESSOR LAVES.

ACADEMY

2. Elementary Algebra.—

A. This course is designed for beginners and deals in a very simple way with the elementary principles of algebra. It will prove especially helpful to high-school students who have found the subject a difficult one, since special emphasis is laid upon type-forms and modern methods of instruction. The principal topics discussed are: the four fundamental operations of algebra, solution of linear equations and of systems of simultaneous linear equations, together with an introduction to the subject of graphs. [This course by itself does not command credit.] M.

B. This course presupposes A and deals with factoring, fractional and literal equations, involution, evolution, theory of exponents, radicals, graphics, quadratics involving one unknown quantity and simultaneous quadratic equations. Mj.

C. Continues B, taking up the general properties of quadratic equations, the binomial theorem, imaginary and complex numbers, an elementary study of determinants up to the fourth order, and ends with a general theory of equations. Mj.

ASSOCIATE PROFESSOR LAVES.

3. Plane Geometry.—The theory is well illustrated by numerous original exercises. The first major comprises the first two books; the second, the remainder of plane geometry. DMj. ASSOCIATE PROFESSOR LAVES.

4. Review of Elementary Mathematics.—To meet the constant demand for help in reviewing elementary mathematics the following courses are offered. They are open to anyone who can present satisfactory evidence of a first study of the subject-matter, but because they presuppose this they do not command credit. The charge for tuition is \$16 per course regardless of combination.

A. *Algebra through Quadratics.*—The ground covered corresponds to that in Schultze's *Elementary Algebra* (pp. 1-331).

B. *Plane Geometry.*—The ground covered corresponds to that in Schultze and Sevenoak's *Plane and Solid Geometry* (Revised) (pp. 1-237).

ASSOCIATE PROFESSOR LAVES

Descriptive Geometry.—A series of four majors. (Cf. description under Drawing C, p. 66.) MR. FERSON.

COLLEGE

5. Solid Geometry.—Here, as in plane geometry, the main emphasis is laid on exercises calling for original work. Mj. ASSOCIATE PROFESSOR LAVES.

6. Plane Trigonometry.—Theory and practice in the solution of triangles by natural functions and logarithms. Applications to simple problems of surveying, physics, and astronomy. Properties of the trigonometric functions treated analytically and graphically. Applications to simple harmonic and wave motion. Mj. PROFESSOR WILCZYNSKI.

7. Plane Trigonometry by the Laboratory Method.—It is one of the tenets of the laboratory method of mathematical instruction that the student shall approach each principle and each problem from at least two of the following viewpoints: the *graphical* (by use of drawings, generally to scale), the *analytical* (by use of formulae), the *arithmetical* (by use of tables), and the *mechanical* (by simple experiments or by appeal to simple physical principles). Experience shows that the total effect of the views from the various angles gives greater mastery than a single view, however clear. Some combination of the arithmetical and analytical methods is found in most modern texts. This course aims to amplify and intensify the concepts of trigonometry by making large use of the graphical method in connection with the others from the beginning. Mj. ASSOCIATE PROFESSOR LAVES.

8. Spherical Trigonometry with Applications to Geodesy and Astronomy.—The course presupposes a good knowledge of plane trigonometry and acquaints the student with that wide realm of elementary geodesy and positional astronomy opened to him through his knowledge of plane and spherical trigonometry. The course serves likewise as a link between elementary mathematics and the beginner's calculus by a study of the spheroidal form of the earth body. Mj. ASSOCIATE PROFESSOR LAVES.

9. College Algebra.—The notion of variable and function, and their geometric representation. Variation. Equations of the first degree and determinants. Quadratic equations, complex numbers, and theory of equations. Fractional and negative exponents, exponentials, and logarithms. Mathematical induction, binomial theorem, and progressions. Limits and infinite series. Undetermined

coefficients, permutations, combinations, and probability. Mj. PROFESSOR WILCZYNSKI.

10. Plane Analytic Geometry.—Rectangular, oblique, and polar co-ordinates in the plane. The relation between a curve and its equation. The algebra of a variable pair of numbers and the geometry of a moving point. Specific applications to the properties of straight lines, circles, conic sections, and certain other plane curves. Extension of the most fundamental of these notions to space. Mj. PROFESSOR WILCZYNSKI.

11. Solid Analytic Geometry.—The co-ordinate systems in space. Lines, planes and quadric surfaces. General properties of surfaces and space curves. (Informal.) Mj. PROFESSOR WILCZYNSKI.

12. Calculus with Applications.—This is designed for students intending to pursue the study of pure or applied mathematics as well as for those who are actively engaged in work which presupposes a knowledge of calculus. An important feature throughout is the large number of practical applications. In dynamics, physics, mechanical and electrical engineering a working knowledge of the calculus is essential. Therefore in the exposition of the theory dynamical, physical, and geometrical illustrations are freely used. It is the aim to acquaint the student with the kind of mathematics which he will find useful and to cultivate the power of applying the principles of the calculus, at first to simple, then to more difficult practical problems. The course is divided into three parts; for the first of them, A, a knowledge of solid geometry, trigonometry, college algebra, and plane analytic geometry is requisite.

A. This deals mainly with the differential calculus and applications. Mj.

B. Chief attention is given to the integral calculus and applications. Mj.

C. This provides (1) a continuation of the treatment of several topics begun in A and B; (2) applications of the calculus; (3) a brief treatment of differential equations. Mj.

PROFESSOR WILCZYNSKI.

13. Analytical Mechanics.—

A. An elementary course aiming to give the student a firm grasp of the physical principles involved, leaving aside at first all mathematical developments which do not contribute directly to this end. By the solution of graded problems the student is taught to use his knowledge of mathematics in the solution of concrete problems of nature. The course includes a short introduction to the underlying principles of the motion of a particle. The main body is devoted to the statics of a system of particles and of rigid bodies. Prerequisite: differential and integral calculus. Mj.

B. Continues A and deals with the dynamics of a particle and of a system of particles. The motion of rigid bodies together with a short study of generalized co-ordinates completes the course. Mj.

ASSOCIATE PROFESSOR LAVES.

14. Theory of Equations.—The fundamental properties of algebraic equations, their transformation, and the approximate determination of their roots. Determinants, symmetric functions, and invariants. (Informal.) Mj. or DMj. PROFESSOR WILCZYNSKI.

15. Differential Equations.—Discussion of problems which lead to differential equations and of the standard methods for their solution. (Informal.) Mj. or DMj. PROFESSOR WILCZYNSKI.

16. Introduction to Analysis.—A somewhat critical study of the fundamental elementary notions of Analysis. Hardy's *A Course in Pure Mathematics*. (Informal.) DMj. PROFESSOR MOORE.

GRADUATE

17. Advanced Mechanics.—

A. *The Dynamics of a System of Particles.*—Free and constrained motion of the material point. General principles bearing on the dynamics of systems

of particles. Lagrange's generalized co-ordinates, the canonical co-ordinates of Hamilton and Jacobi, and Jacobi's partial differential equations, additions of Donkin and A. Mayer. Mj.

B. *The Dynamics of Rigid Bodies*.—System of vectors, distribution of mass, instantaneous motion; dynamics of rotating bodies. Mj.

C. *The Theory of the Potential*.—This course includes the theory of Spherical Harmonics. Mj.

ASSOCIATE PROFESSOR LAVES.

18. **Advanced Analytic Geometry**.—Homogeneous point-, line-, and plane-co-ordinates with applications to projective geometry. Projective, dualistic, and other transformations. The importance for geometry of the notions—transformation, group, and invariant. (Informal.) Mj. or DMj. PROFESSOR WILCZYNSKI.

19. **Projective Geometry**.—Veblen and Young's *Projective Geometry*. (Informal.) DMj. PROFESSOR MOORE.

20. **Theory of Functions of a Real Variable**.—Hobson's treatise on the subject will be used. (Informal.) DMj. PROFESSOR MOORE.

21. **Theory of Functions of a Complex Variable**.—Burkhardt's *Einführung in die Theorie der analytischen Funktionen*. (Informal.) DMj. PROFESSOR MOORE.

22. **Algebraic Invariants**.—First introduction to the theory of invariants and covariants of algebraic forms. Solution of numerous elementary problems; applications to cubic and quartic equations, geometry, etc. Dickson's *Algebraic Invariants* will be used. Mj. PROFESSOR DICKSON.

23. **Substitution Groups and Galois' Theory of Algebraic Equations**.—A first course, with many problems, based on Dickson's *Introduction to the Theory of Algebraic Equations*. Mj. PROFESSOR DICKSON.

24. **Linear Associative Algebra**.—The classical theory of hyper-complex numbers; introduction to quaternions. Dickson's *Linear Algebra* is used. Mj. PROFESSOR DICKSON.

25. **Invariantive Theory of Numbers**.—Elements of a general theory of invariants applicable to the classical algebraic case and to the number-theory case; modular geometry. At the outset will be given the few needed definitions and theorems in the theory of numbers. The work is based on Dickson's *Invariants and the Theory of Numbers*. Registered students ready for independent investigation will be assigned suitable subjects in this only partially developed field of mathematics. Mj. or DMj. PROFESSOR DICKSON.

26. **General Analysis**.—A study of classes of functions of a general variable, based on Moore's *Introduction to a Form of General Analysis*. Prerequisite: a knowledge of the theories of convergent series and of continuous functions. (Informal.) Mj. or DMj. PROFESSOR MOORE.

SCHOOL OF EDUCATION

27. **Review Course in Mathematics for the Elementary School**.—This is designed primarily for the review and restudy, from the teacher's point of view, of the subject-matter upon which the mathematical work of the elementary schools should be based. It deals largely with the applications of mathematics to quantitative problems and questions of school environment and everyday life. The number work of geography, nature-study, commerce, business, of construction, and of the industries will receive special emphasis. Out of work drawn from these various sources the science of arithmetic will be derived. The bulk of the work will consist in the actual solution of problems drawn from modern life and representing real conditions. The course will be given under the following heads: (1) work in counting, indefinite comparison and measurement, covering the period from Grade I to Grade V, inclusive; (2) work in direct measurement, definite comparison, and ratio, covering the period from Grade III to Grade VII, inclusive; (3) direct and indirect measurement and comparison, covering the period from Grade V to Grade VII, inclusive; (4) observational and experimental geometry, inductive geometry, and generalized arithmetic, covering the period from

Grade V to Grade X, inclusive. [This course commands School of Education credit only.] Mj. PROFESSOR MYERS.

28. Theory of the Teaching of Elementary-School Mathematics.—This course is based on a good knowledge of the subject-matter of arithmetic, algebra, and geometry. It includes a critical study of (1) the content, (2) the organization, and (3) the methods of presenting mathematics to grade pupils. The curriculum is critically studied from grade to grade, with a view to determining the best type of work for the modern elementary public school. Some attention is given also to testing the results of arithmetic teaching. Mj. PROFESSOR MYERS.

29. The Psychology of Number.—The work of this course requires a good knowledge of the subject of arithmetic and some power of abstract thought. Questions having to do with the psychological genesis, and growth of the number concept are examined. The psychologic grounds for and against the ideas which have dominated pedagogic method in the elementary mathematics are critically examined. The variable unit conception of number is studied with special care. The purpose of the course is to make teachers of elementary mathematics clearly conscious of the function of this subject in elementary education, thereby rendering this practice immune from contagion of shallow mechanical devices as methods of training the number faculty of children. Mj. PROFESSOR MYERS.

30. Teachers' Course in the First Two Years of Secondary Mathematics.—This course covers the essentials of the work in mathematics usually taught in the first two years of the high school. The subjects, algebra and geometry, are related to each other and to other topics not usually treated in the first two years. Thus trigonometry is introduced in the second year leading to the solution of the right triangle and simple trigonometric equations. The course serves as a review from the point of view of the teacher, it suggests methods of presenting the subject-matter to high-school classes, and brings the teacher into close touch with modern ideas and methods. It presents the work under the aspect of unified mathematics. DMj. PROFESSOR MYERS.

31. The Teaching of Secondary Mathematics.—This course covers the general theory of the teaching of secondary subjects. It examines critically the best modern courses in algebra, geometry, and trigonometry, and undertakes to point out the present defects in the organization and administration of the mathematical work in high schools with a view to specifying desirable improvements. Some general attention is given to the advantages and disadvantages of fusion mathematics. Subject-matter is treated only in so far as needed to exhibit method and organization. Mj. or DMj. PROFESSOR MYERS.

32. The Teaching of College Algebra, Trigonometry, and Analytics.—A good academic knowledge of these subjects is required for admission to this course. The following topical enumeration will suggest the nature of the questions considered: (1) the purpose of college algebra, trigonometry, and analytics in the curriculum of the college: (a) viewed from the teacher's standpoint, (b) viewed from the student's standpoint; (2) method of teaching these subjects as determined by this purpose; (3) the correlation idea as applied to Freshman college mathematics; (4) the laboratory method in Freshman college mathematics; (5) use of graphical work early and all along; (6) applications of these subjects in teaching them; (7) dangers of this teaching becoming too abstract; (8) order and sequence of special topics. Any recent text in each of these subjects will answer. Mj. PROFESSOR MYERS.

33. History of the Science of Mathematics.—This course is intended to put the student in possession of a knowledge of the most fruitful epochs and of the most salient influences of mathematical history; to make him more keenly appreciative of the fact that his science is and always has been a growing science, to inform him that the attitude of mind exhibited by the works of the great mathematicians is most conducive to progress today; in short, to assist the mathematical student to identify himself more intelligently with those men and movements which are making for mathematical advance at the present time. Mj. PROFESSOR MYERS.

34. History of the Teaching of Elementary and Secondary Mathematics.— Especial attention is here given to the historic order of evolution of the subject-matter of arithmetic, algebra, geometry, and trigonometry, and to the ideas which, among the various peoples who have contributed to these subjects, have determined the place and functions of these subjects from age to age, in the education of the youth. The work will be conducted from the higher point of view of the teacher and with reference to the meaning, for current teaching of these subjects, of the historic stages through which they have passed to reach their present status in school curricula. Mj. PROFESSOR MYERS.

The History of Astronomy.—(Cf. description under Astronomy 2.) Mj. PROFESSOR MYERS.

Members of the Mathematical Department will endeavor to arrange informal courses for students who are able to do work of an advanced nature, whenever practicable.

XVIII. ASTRONOMY

1. Descriptive Astronomy.—An elementary general culture course designed: (1) to furnish an idea of the principles, methods, and results of the science; (2) to show the steps by which the remarkable achievements in it have been attained; and (3) to unfold that extended horizon which astronomy has laid open. This work covers the recent investigations respecting the origin and development of the solar system. Moulton's *Introduction to Astronomy*. (Informal.) Mj. PROFESSOR MOULTON AND ASSISTANT PROFESSOR MACMILLAN.

2. The History of Astronomy.—This is a culture course on the subject for persons who desire to familiarize themselves with the scientific ideas, methods, and results that have determined scientific progress down to recent times. The history of no science so fully exhibits the complete scientific method as does the history of this oldest, most complete, and most exact of all the sciences. A careful study of it may well constitute a part of a liberal education. It is both stimulating and directly helpful to teachers of high-school science and mathematics. A real basis for much of the high-school mathematics is furnished by supplying the astronomical setting from which it sprang. Mj. PROFESSOR MYERS.

3. Celestial Mechanics.—A treatment of the dynamics of the solar system, including the contraction theory of the heat of the sun, the attraction of bodies, the two-body problem, the general integrals of motion, the three-body problem, perturbations, and determination of orbits. Moulton's *Introduction to Celestial Mechanics*. Prerequisite: course 12 in Mathematics or its equivalent. (Informal.) DMj. PROFESSOR MOULTON AND ASSISTANT PROFESSOR MACMILLAN.

XIX. PHYSICS

1. Elementary Physics.—

A. *Mechanics, Molecular Physics, and Heat.*—This course corresponds essentially to the first major of course 1 in residence, and is designed to cover the first half-year's work in elementary physics as given in high schools and academies. A text is followed rather closely in the reading lessons, supplemented by new problems and references to other textbooks. The apparatus for the required laboratory work, together with detailed instructions for setting it up and performing the experiments, is packed in a special case and shipped to the student. Reports on both the reading and laboratory work are submitted by the student for approval or correction. A deposit of \$15 is required for the loan of the apparatus. This will be refunded when the same is returned intact, less expressage and \$3, the loan fee. Mj.

B. *Electricity, Magnetism, Sound, and Light.*—A continuation of course A and the equivalent of the second half-year of high-school physics. The plan for text and laboratory work laid down under course A is followed in this course. A deposit of \$15 is required for the loan of apparatus. This will be refunded when the same is returned intact, less expressage and \$3, the loan fee. Mj.

ASSISTANT PROFESSOR MOORE.

NOTE.—Courses A and B together constitute the admission unit in physics.

XX. CHEMISTRY

1. General Inorganic Chemistry (sequel to High-School Chemistry).—The two majors into which the work is divided furnish a review and a continuation of "Elementary Chemistry" and form the link between the average high-school course in chemistry and "Qualitative Analysis." They correspond to courses 2S and 3S in residence. In view of the fact that different students will have different degrees of preparation, the number of lessons may be varied by omitting such parts of the subject as the student may already have mastered; in this way the work will be adapted to individual needs, and waste of time and effort will be avoided. Students must provide themselves with a balance sensitive to one centigram, with weights 50 gm. to 0.01 gm., and must have access, at least, to a barometer. This apparatus cannot be loaned. The rest of the *apparatus* needed for either course A or course B will be loaned for a deposit of \$15. The *chemicals* necessary for course A will be loaned for a deposit of \$10, and for course B for \$15. When the apparatus and chemicals are returned, the deposits will be refunded, less the cost of packing, non-returnable and missing parts, breakage, carrying charges and a fee of \$1.50 for the use of the apparatus in each major, \$2.50 for the chemicals in course A, and \$3.50 for those in course B.

A. This course includes a study of the metallic and non-metallic elements and their chief compounds. It includes also the study of the laws and principles of the science and their use in explanation of chemical phenomena. The laboratory work, which is an important part of the course, affords opportunity for gaining direct knowledge of the different substances, their modes of manufacture, and their properties. In the choice of illustrations preference is given to the industrial and other applications of chemistry. Prerequisite: a course in inorganic chemistry as ordinarily given in high schools. Mj.

B. Continues course A. Mj.

DR. RAIFORD.

2. Qualitative Analysis.—The second year of college work in chemistry is offered in the following three majors. The apparatus and the reagents for any one of them will be loaned for a deposit of \$30. If only the set of sixty glass stoppered bottles, required for the necessary solutions, is needed, they can be loaned for a deposit of \$6. The deposit will be refunded when the apparatus is returned, less deductions for the loan (\$1.50 for the apparatus, \$3.50 for the chemicals, \$0.50 for the bottles), carrying charges, and broken and missing parts. An extra charge of \$1 per major is made for "unknowns."

A. This course aims to present the fundamental methods of qualitative analysis. The analytical reactions of the most important metals and acids are studied. This is done in such a way that the student learns the art of performing tests, and comes to understand how the methods of separation and detection are based upon a judicious selection and arrangement of these tests. During the course each student analyzes a number of simple salts, and a few mixtures which contain, in each case, only the metals or acids of a single group. Qualitative analysis has been modified by the influence of physical chemistry. The theories of solution and of electrolytic dissociation, and the study of problems in chemical equilibrium have all contributed to furnish analytical chemistry with a scientific foundation which it never possessed before. Course A is planned to develop the subject with this scientific, theoretical foundation and at the same time to give a thorough foundation in *systematic analysis*. Prerequisite: "General Inorganic Chemistry" (A and B) or the equivalent. Mj.

B. Continues course A and gives the student practice in the *systematic analysis* of simple salts, simple mixtures, and finally, of rather difficult mixtures in which the metals and acids are to be determined. Fifteen to twenty "unknowns" will be analyzed. The main object of the course is to develop *accuracy* and *reliability* and these must be demonstrated in the final analyses to secure credit. Mj.

C. Continues course B and requires the analysis of complicated mixtures, and especially the analysis of minerals and commercial products. Mj.

PROFESSOR STIEGLITZ.

XXI. GEOLOGY

ACADEMY

1. Physical Geography.—This course is designed especially for high-school students or those desiring a course equivalent to that given in a first-class high school. The lessons treat of the form of the earth and its solar relationships; the work of running water, underground water, waves, glaciers, and the atmosphere as agencies which are at present, as in the past, modifying the earth's surface; and the phenomena of vulcanism and movements of the earth's crust. Some attention is paid to climate. Emphasis is laid on the relation between man and his physiographic environment and outdoor features are made the basis for some of the later lessons. **Mj. MR. STEPHENSON.**

COLLEGE

2. Physiography.—The course embraces the following general subjects: (1) the form of the earth as a whole, and its relation to other members of the solar system, particularly the sun and the moon, with the consequent changes in the length of day and night and the seasons; (2) the atmosphere—its constitution, temperature, pressure and movements, weather changes and climate; (3) the ocean—its constitution, temperature, movements, geologic activities, coastline phenomena; (4) the land—the geologic processes by which the earth's topography has been chiefly determined, and the varied topographic types which result therefrom, including the study of the origin and development of plains, plateaus, river valleys, mountains, volcanic cones, islands, and seashore features. The effects of man's physical environment upon his distribution, his habits, and his occupations will be continually emphasized. Topographic maps and folios will be studied, and the maps will be used in connection with land forms. The rocks and minerals forming the earth's crust will be treated as fully as the course permits. The last lessons will give the student some opportunity to do individual field work. Laboratory methods will receive attention throughout the course. The course covers the ground of course 1 offered in residence, and is suited to the needs of those who teach physical geography and physiography in preparatory schools. **Mj. PROFESSOR CALHOUN.**

3. General Geology.—This course treats of the leading facts and principles of geology, and the more important events of geological history. It embraces the following general subjects: (1) the materials of the earth; (2) physiographic geology—the work of atmosphere, running water, glaciers, waves and currents, and organic agencies treated in a manner to supplement the physiographic studies of course 2; (3) volcanic, diastrophic, and structural geology; (4) elementary studies in the interpretation of topographic and geologic maps; (5) historical geology—a systematic study of the development of the series of geological formations, with special reference to the evolution of the North American continent, and the historical development of life forms; (6) economic geology; (7) a special general geological report on a particular area in the student's own vicinity. This course covers the ground of course 5 in residence, and is adapted to the needs of teachers in high schools and academies, to those interested in economic geology, and also to students not intending to specialize in geology. Course 2, while desirable, is not a prerequisite. **Mj. MR. STEPHENSON.**

4. Interpretation of Topographic and Geologic Maps.—This course is intended especially to introduce teachers of high-school, normal-school, and college grade to modern methods of laboratory work in physiography and general geology. It may also be taken by teachers of nature-study in the grades, and by those interested in regional physiographic problems. It will serve as a basis for the study of the physiographic features of widely separated regions in the United States, and as a supplement to the physiographic studies of courses 2 and 3. The course assumes that the successful teaching of physiography must be accompanied by a clear understanding of topographic maps, and by their continued use. It is based on topographic maps of the United States Geological Survey, and a

guide to their interpretation, and includes: (1) general principles in the interpretation of topographic maps; (2) topographic forms resulting from the work of wind, ground water, running water, glaciers, oceans and lakes, diastrophic movements, and vulcanism; (3) interpretation of the physiographic history of specially selected regions, on the basis of topographic maps; and (4) enough work with geologic maps to show something of the connection between geologic structure and topography. Prerequisite: a knowledge of physiography equivalent to that afforded by either course 2 or 3. M. PROFESSOR TROWBRIDGE.

5. Elementary Mineralogy.—A course intended to familiarize students with the common minerals. A large part of the work will consist in determining, principally by means of their physical properties—streak, hardness, cleavage, specific gravity, etc.—the 85 or 90 specimens which will be furnished. The origin, occurrence, and economic uses of each mineral also will be studied. The work on minerals will be supplemented by a brief discussion of the rocks, their modes of formation, occurrence and classification. The course is intended for beginners and no previous geological training is required, but an understanding of a few of the fundamental principles of chemistry is highly desirable. The streak plate and the set of specimens will be furnished for a fee of \$3.50. A small hand lens and a specific gravity balance will be very useful and if possible should be procured by the student. The set of minerals becomes the property of the student, and will serve for future reference or as a nucleus for a collection. Mj. ASSISTANT PROFESSOR BROKAW.

6. Economic Geology.—This course is designed to give a general knowledge of the principles governing the formation and occurrence of the more important ores and non-metalliferous deposits, and of the conditions, commercial and otherwise, which limit their exploitation. It covers the study of (1) structural materials—including building stones, clays, limes, mortars, and cements; (2) fuels—including coal, petroleum, and natural gas; (3) principles controlling the deposition of metalliferous ores—including the nature and genesis of ores, the forms of ore bodies, and their relations to the structural features of the containing rocks, the formation of cavities in rocks, underground waters, their composition, circulation, etc.; (4) ores of metals—including iron, copper, lead, zinc, gold, and silver. No attempt will be made to cover the entire field, but typical districts or occurrences will be studied in each case. Incidentally it is hoped the student will learn how to study a district independently, and to that end he will be put in touch with the general literature of the subject. The student is expected to be familiar with the common rocks and minerals. Prerequisite: elementary chemistry and course 3, or a practical knowledge of geology gained by experience in mining, etc. Mj. MR. STEPHENSON.

XXI A. GEOGRAPHY

1. The Elements of Geography.—An introductory study of the earth; its physical features and the relations of land, air, and water to life—especially to human affairs. Mj. MISS LANIER.

2. Influence of Geography on American History.—A study of the geographic conditions which have influenced the course of American history; their importance as compared with one another, and with non-geographic factors. Mj. MISS LANIER.

SCHOOL OF EDUCATION

3. The Teaching of Geography in the Primary Grades.—This course, corresponding to course 1 in residence, is designed for teachers, supervisors, and principals. The main topics considered are: (1) home geography—a study of the products, industries, and physical aspects of the region in which the student is located; (2) foreign geography—a consideration of regions which best illustrate the geographic control of cold (Greenland), heat and moisture (Amazon basin), drought (Arabia); (3) selection and adaptation of material best suited to the first four grades. Mj. ASSOCIATE PROFESSOR BABER AND MISS HENDERSON.

4. The Teaching of Geography in the Grammar Grades.—The aim of the course is to consider the principles underlying the selection and adaptation of material in continental geography for the grammar grades, through the study of Eurasia. The subjects treated are: (1) relief and its causes; (2) climate; (3) distribution of vegetable and animal life; (4) peoples and their industries. A detailed study is made of Europe, India, China, and Japan in these respects. Special emphasis is placed upon the educative value of modeling and the drawing of maps and type landscapes, and training in work of this kind is afforded in the course. Mj. ASSOCIATE PROFESSOR BABER AND MISS HENDERSON.

XXII. ZOÖLOGY

While the first five majors offer the practical equivalent of the first two years' work in Zoölogy in the University, a student who finishes them and wishes to continue the study of the subject in residence will be advised to take course 26 in residence for the sake of additional training on the experimental side.

1. General Animal Biology.—This course which corresponds to course 1 in residence consists of laboratory work and reading, and is especially recommended to (1) those desiring a general culture course; (2) teachers; and (3) those looking forward to the study of medicine. The student must have had some high-school training in science, preferably in chemistry or physics, or both. The laboratory work includes (a) a study of the structure, activities, and life-history of one or two unicellular animals (e.g., Amoeba, Paramoecium); (b) a similar study of one of the higher animals (e.g. the frog, its anatomy, histology, general physiology and development); and (c) a study of karyokinesis (cell-division). All those who are registered in the course in early spring will be required to collect some amphibian eggs. A fee of \$5 will be charged for the materials furnished and loan of slides. Materials furnished are preserved frogs with circulatory system injected, certain reagents not easily obtainable by the student, and a good supply of note and drawing paper. The slides will illustrate cell-division, histology of the frog, etc. A compound microscope, magnifying 400 times, a hand lens, and a set of dissecting instruments will be needed. The cost of instruments (exclusive of the microscope and hand lens) need not exceed \$3. The cost of books will depend upon the library facilities of the student, but need not in any case exceed \$8. Mj. DR. SHELFORD.

2. Evolution and Heredity (Introductory Course).—The equivalent of course 5 in residence. The course gives an unprejudiced treatment of one of the central problems of biology and is intended to serve as an introduction to more advanced special work in zoölogy and other biological branches. Yet the general student will find the work absorbingly interesting if he is prepared to read widely and to form independent judgments as to the validity of arguments and evidence. Among the topics discussed are: (1) brief survey of animal groups in the order of increasing complexity; (2) the idea of a phylogenetic tree; (3) evidences of evolution from comparative anatomy, embryology, paleontology, and geographical distribution; (4) the ancestry of man; (5) the history of the evolution idea from the Greeks to Darwin; (6) Darwinism—a critical discussion; (7) post-Darwinian hypotheses as to the causes of evolution; (8) variation and heredity as prime factors of evolution; (9) variations: size, kind, causes; (10) the heritability of variations; (11) the physical basis of heredity; (12) Mendelian heredity; (13) the facts of inheritance in man; (14) eugenic aspects of evolution and heredity. Mj. ASSOCIATE PROFESSOR NEWMAN.

3. General Morphology and Natural History of the Invertebrates.—The two majors of this course correspond to courses 15 and 16 in residence.

A. Protozoa, Porifera, Coelenterata, Platyhelminthes, Nemathelminthes, and Echinodermata.—An introduction to the study of invertebrate animals. The work includes laboratory study of the anatomy, physiology, and, as far as possible, of the life-history of typical forms, together with assigned reading. Special emphasis is laid on the economic importance of the animals considered. The

fundamental principles of comparative morphology are kept in view throughout the course. In addition to the study of the material furnished (about thirteen forms) the student will be expected to acquaint himself with some of the typical invertebrates of his own locality, and directions for the collection and determination of such forms will be given. The securing of the protozoa studied in the course is a part of the laboratory work, and since protozoa must be cultivated in infusions, which require from one to three or four weeks, the student should not delay registration until he is ready to begin work. Instructions for making infusions will be sent with the first lessons. Fee for material and loan of more difficult preparations, \$5. Mj.

B. Mollusca, Annelata, and Anthropoda.—Continues A. About twelve forms, including some especially prepared, are furnished. Fee for materials and the loan of the more difficult preparations, including slides illustrating adaptation among insects, \$6.25. Mj.

DR. SHELFORD.

4. General Morphology of the Vertebrates.—An introduction to the study of vertebrated animals, more especially recommended for teachers of zoölogy and those contemplating the study of medicine. The course is elementary and may profitably follow course 3, though 3 is not prerequisite; it corresponds to course 17 in residence. The work will consist of assigned readings and dissection. The following type forms will be furnished for dissection: elasmobranch, frog, and necturus. Observation of the life-history and development and metamorphism of the frog will be expected, to be supplemented by readings on the natural history, geographical distribution and classification of both the elasmobranchs and amphibians. Fee for materials, \$3. (Informal.) Mj. PROFESSOR WILLISTON AND ASSISTANT.

5. Economic Zoölogy.—Under this title an attempt will be made to provide the instruction given in course 4 in residence in which the student is familiarized with the structural, ecological, and physiological diversity among the animals of his locality, and the principles of economic zoölogy. The course is introduced here in the sequence because it is deemed advisable that the non-resident student shall have done the work of all the preceding majors. Only students who have completed the two majors of course 3 with a high grade will be admitted. Some special apparatus costing from \$5 to \$10 will be necessary. The books required will differ in individual cases. (Informal.) Mj. DR. SHELFORD.

6. Comparative Osteology.—A comparative study of the skeleton of typical amphibians, reptiles, birds, and mammals, with especial reference to their relationships, classification, and origin. This course is recommended as preliminary to the general study of the vertebrates, or in preparation for the study of medicine. (Informal.) Mj. PROFESSOR WILLISTON AND ASSISTANT.

7. Advanced Animal Ecology.—This course which corresponds to course 52 in residence is designed for students who have taken "Animal Ecology" in residence and consists chiefly of definite systematic fieldwork. All the animals of certain habitats will be studied in relation to each other and to the conditions in which they live. The student must consult the instructor before registering for this course. Prerequisite: "Physiographic Animal Ecology" (29 in residence). (Informal.) Mj. DR. SHELFORD.

XXIV. PHYSIOLOGY

1. Introductory Physiology.—The object is to develop an appreciation of the human body. This necessitates a knowledge of its structure and the work of its parts separately and as a whole. Knowledge of this kind is a necessary foundation for advanced study such as is demanded of students of medicine, pharmacy, dentistry, and kindred subjects. Some information of this kind should be the possession of every intelligent person for without it effective co-operation in the modern methods of healing and preventing disease, as practiced by physicians, is impossible. A further use of physiological facts is their application to methods

employed to solve many social problems of today. To teachers such knowledge is especially valuable. It enables them to use and conserve the bodily powers both of themselves and of their pupils and to analyze intelligently deficiencies exhibited by their pupils and so make proper adjustments.

A. This is essentially a summary of the history of food in the body. In the *textbook work*, after stating the point of view from which the subject is to be attacked, the following topics are discussed: (1) life—theories advanced to explain its nature, conditions necessary for its existence; (2) protoplasm, cells, tissues, organs and their relations and, incidentally, the subject of “division of labor”; (3) blood—its structure, components, use, and how it gains foods; (4) respiration; (5) digestion and digestive fluids; (6) secretion and absorption. In the *laboratory work*, which will require a microscope for a short time (two weeks or so), directions will be given for the study of (1) blood; (2) properties of foods; (3) the changes which food undergoes under the action of the various digestive fluids. Some knowledge of chemistry is essential. The requisite laboratory equipment and materials will be loaned for a deposit of \$15. Mj.

B. Continuing A, study is made of (1) how the blood with its acquired foods is distributed throughout the body (circulation); (2) how the lymph gets to the cells; (3) history of food in the body cells—fats, glycogen, muscle, nerve, the various tissues, their physiology and metabolism, are discussed; (4) excretion; (5) animal heat. Directions are given for making the necessary experiments to illustrate physiological methods and the physiology of the organs of circulation, muscle, and nerve. The requisite laboratory equipment will be loaned for a deposit of \$15. Mj.

C. Continuing B, study is made of the physiology of the brain, cord, and senses, to give general acquaintance with the structure of the central nervous system. Known facts in its physiology are discussed and so far as possible the methods by which these facts have been ascertained are explained. The main facts of the anatomy and physiology of the brain, eye, ear, and other sense organs are brought out through dissection for which full directions are furnished. Mj.

ASSISTANT PROFESSOR LINGLE.

NOTE.—The deposit for either A or B will be refunded when the set of apparatus is returned, less charges for breakage, expressage, and a loan fee of \$3.

XXVII. BOTANY

1. General Morphology of the Algae and Fungi.—This course consists of twelve exercises covering the ground of the laboratory work of the twelve weeks' course given at the University. The fifty types studied represent all the main groups of algae and fungi. In connection with a study of the structure, development, and relationships of the various forms, the principal problems considered are: (1) the evolution of the plant body, (2) the origin and evolution of sex, and (3) parasitism, saprophytism, and symbiosis. This is pre-eminently a course for beginners, but it is also adapted to the needs of teachers who, though acquainted with the older style of botany, desire an introduction to the more modern phases of the subject. The material in many of the types is sufficient for a class of eight or ten students. An additional fee of \$2.50 is charged for the material and the loan of preparations. The applicant must have access to a compound microscope with a low- and a high-power objective, the latter being a $\frac{1}{8}$, a $\frac{1}{6}$, or a $\frac{1}{7}$, preferably a $\frac{1}{8}$. Mj. ASSOCIATE PROFESSOR CHAMBERLAIN.

2. General Morphology of the Bryophytes and Pteridophytes.—A course similar to the one on algae and fungi, and requiring that course or its equivalent as a prerequisite. The structure, life-histories, and relationships of the liverworts, mosses, and ferns are studied in characteristic types. The principal problems considered are: (1) the evolution of the sporophyte, (2) the reduction of the gametophyte, (3) heterospory, (4) alternation of generations, and (5) an introduction to modern phases of vascular anatomy. As in course 1, a compound microscope and skilfully stained preparations, involving a knowledge of micro-technique, are needed. Arrangements have been made whereby a limited number

may secure a loan of the necessary material and preparations for \$5. No one should register without consulting the instructor. Mj. ASSOCIATE PROFESSOR CHAMBERLAIN.

3. General Morphology of the Gymnosperms and Angiosperms.—A course similar to the two preceding courses, and requiring both of them (or their equivalent) as a prerequisite. Aside from a study of the structure and development of typical forms the most important features of this course are: a study of flora development, spermatogenesis, oögenesis, fertilization, embryology, karyokinesis, and a brief survey of Engler's scheme of classification. A compound microscope is needed as in courses 1 and 2. No one should register without consulting the instructor. Fee for material and loan of the more difficult preparations, \$5. ASSOCIATE PROFESSOR CHAMBERLAIN.

NOTE.—Courses 1, 2, and 3 are designed to give the student a comprehensive view of the structure, development, relationships, and problems of the plant kingdom. These courses form the necessary foundation for all advanced work, whether the advanced work be morphology, physiology, ecology, or taxonomy. They are required of all who make botany their major subject for the Bachelor's degree, and are required of all who make botany either a major or minor for any higher degree. The development of a clear, bold style of scientific drawing receives attention in all of these courses.

4. Elementary Plant Physiology.—This course corresponds to course 2 in residence. It aims to give the student a general knowledge of the life-processes of higher plants and is introductory to the advanced courses in the subject given in residence. The work will consist of experiments illustrating the different topics, together with assigned reading in a standard textbook. It is adequate to meet the needs of high-school teachers. For the experimental work little more apparatus will be needed than that found in the physical and chemical laboratories of the average high school. A list of required articles will be furnished on application. Reports of both reading and experiments will be called for and will be returned with corrections. Anyone registering should realize that serious difficulties will be encountered unless some facilities for growing plants are at hand. This difficulty can be met by doing the work during the summer months. Mj. ASSISTANT PROFESSOR CROCKER.

5. Elementary Plant Ecology.—This course covers essentially the same ground as Coulter's *Plant Relations*, and does not necessarily require previous botanical training though some work in plant analysis and in the study of plant structures is highly desirable. The object of the course is to present to the student the factors which influence the functions, form, and distribution of the common plants of his neighborhood. At first the different forms of leaves, stems, and roots are studied; then the plant is taken as a whole with respect to the advantages it possesses in the struggle for existence because of a particular structure—leaf, root, or stem. Under the subject of stems, the identification of the common trees is required. The work may be carried on chiefly out of doors, and no microscope is needed. Mj. ASSOCIATE PROFESSOR COWLES AND DR. FULLER.

6. The Scientific Basis of Agriculture.—This is chiefly a reading course of general nature dealing with the main physiological factors influencing plant production. Several phases of the work will involve simple experiments which call for little apparatus. Some of the topics considered are: (1) soils as influencing plant growth and production; (2) seeds and germination of seeds of economic plants and weeds; (3) water relations of plants; (4) synthesis of foods and their uses in plants; (5) reproduction and fertilization and physiology of budding and grafting. In addition to the textbooks constant use will be made of various agricultural bulletins and other scientific pamphlets. In case the pamphlets cannot be obtained gratis they can be borrowed from the Correspondence-Study Department for a nominal fee. This course should be attempted only by persons having a fair general knowledge of botany. Mj. ASSISTANT PROFESSOR CROCKER AND DR. ECKERSON.

7. Elementary Forestry.—The principal subjects covered by this course are: (1) the identification of trees by the use of keys and other helps; (2) the life-relations of trees, that is, trees as influenced by light, soil, temperature, wind,

animals, and by the struggle for existence; (3) the composition and distribution of the forests of the United States, involving the making of distributional maps; (4) some economic aspects of forestry, namely the proper care and management of the forests, including plans for improvement cuttings, for reproduction, and for protection from fire. The object of the course is to impart an elementary general knowledge of forestry, including the forestry problems in the United States, and it is offered primarily to teachers in the belief that they can do much to influence public opinion in regard to one of the most important economic problems confronting the country. The course may be given entirely through lectures and textbooks, but whenever practicable such work will be supplemented by field exercises on some limited forested area selected by the student. As the instructor spends a considerable part of each summer in the northern woods beyond regular mail service the student should plan to do as much of the work as possible during the other seasons of the year. Mj. DR. HOWE.

8. Ecological Plant Anatomy.—This course is a continuation of course 5 and corresponds to course 30 in residence. It involves a careful study of the absorptive, conductive, synthetic, protective, and storage tissues of plants in relation to their functions, with special attention to the variations of structure in so far as they depend upon changes in environment. Students electing this course should have a knowledge of elementary botany and be somewhat familiar with the use of the microscope. The student must have access to a good compound microscope, and if the work is to be done during the winter, access to a greenhouse is very desirable. Fee for materials and loan of slides, \$2.50. Mj. ASSOCIATE PROFESSOR COWLES AND DR. FULLER.

9. Field Ecology.—This course is designed primarily for those students who have taken residence courses in ecology, and who desire to pursue further investigations along this line. The work consists very largely of systematic study in the field. A definite region or plant formation may be made the subject of study, or some problem may be selected in the ecology of plant structure or behavior. (Informal.) Mj. ASSOCIATE PROFESSOR COWLES OR DR. FULLER.

10. Elementary Plant Anatomy.—A study of the tissues and tissue systems of vascular plants from the standpoint of phylogeny. This work is very different from the old anatomy in which facts were presented without any attempt to relate them to each other. The course deals with the morphology and evolution of the vascular system, and is based upon a comparative study of representative juvenile and adult forms of Pteridophytes, Gymnosperms, and Angiosperms. A microscope magnifying about four hundred diameters is necessary. An extensive knowledge of micro-technique is not essential. Directions for preparation of material and making of the necessary mounts will be given in the exercises. Fee for material and loan of slides, \$2.50. Mj. ASSISTANT PROFESSOR LAND.

11. Methods in Plant Histology.—This course deals with the principles and methods of killing, fixing, imbedding, sectioning, staining, and mounting. The student must have access to a compound microscope magnifying at least four hundred diameters, a microtome, and some other apparatus and reagents. A fee of \$2.50 is charged for plant material which is not readily collected at all seasons. No one should register without consulting the instructor. Mj. ASSISTANT PROFESSOR LAND.

SCHOOL OF EDUCATION

12. Teachers' Course in Botany.—This course treats of the leading facts and principles that are involved in presenting botany in secondary schools. The following are some of the topics considered: (1) the place of science, particularly botanical science, in secondary education; (2) a review of botanical material in order to establish a basis of consideration of other elements of the course; (3) study of types of plant life as found in the student's locality; (4) criticism of outlines that are recommended for courses in botany and related biological subjects; (5) outline of a course fitted to the local school needs and botanical environment; (6) consideration of laboratory and fieldwork, apparatus and illustrative

material; (7) teachers' helps—reference works, magazines, forestry and agricultural publications, maps, charts, and photographs; (8) reports upon special topics. This course is similar to course 21 in the School of Education (course 50 in the Department of Botany). Prerequisite: three majors in botany, or experience through teaching, or practical study. The student must consult the instructor before registering. Mj. ASSOCIATE PROFESSOR CALDWELL.

NOTE.—Related courses will be found under Departmental Number CXXII.

XXVIII. HYGIENE AND BACTERIOLOGY

ACADEMY

1. General Bacteriology and the Relation of Bacteria Yeasts and Molds to the Household, Dairy, Industries, and Agriculture.—This is primarily a culture course designed for those who do not wish to go to the expense of setting up a laboratory and will consist of: (1) simple experiments at home; (2) examination and description of sealed cultures; (3) writing of themes on assigned subjects; (4) selected readings. [This course commands only admission credit.] Mj. DR. HEINEMANN.

COLLEGE

2. Bacteriological Methods.—The following subjects will be covered: (1) principles of sterilization; (2) manipulation of the microscope; (3) rôle of bacteria in nature; (4) methods of growing bacteria; (5) methods of staining bacteria; (6) description of bacteria; (7) bacteriology of water and milk. The work will appeal especially to students preparing for the medical profession and to practitioners who wish to renew their knowledge of the subject. The applicant must have access to a compound microscope with a low-power and a high-power objective. If all the apparatus is purchased it will cost approximately ten dollars exclusive of the microscope, but many of the parts can be extemporized. A complete set of the apparatus needed, packed ready for shipment, will be supplied for \$12. Course 1 is not prerequisite. Mj. DR. HEINEMANN.

3. Advanced Bacteriology.—A series of courses designed for those interested in some particular branch of bacteriology, e.g., medical, sanitary, agricultural, etc.

A. Yeasts, Molds, and Acetic Acid Bacteria.—A course designed especially for those wishing to prepare themselves for the practical use of bacteriology in fermentation industries. The general methods of studying this class of microorganisms are studied and practical work proposed. Mj.

B. Water and Milk Analysis.—This course covers the methods of practical water and milk analysis. The methods given are those in use at health and private laboratories, and, though not complete for research, give the student an idea of how research may be prosecuted after these subjects have been mastered. Mj.

C. Bacteriological Examination of Soil.—An elementary course in soil bacteriology, giving the methods now in vogue for investigation of soil conditions. Some knowledge of chemistry is required. Mj.

DR. HEINEMANN.

CXXII. NATURAL SCIENCE

1. Elementary Natural Science.—This course is based largely on out-of-door observations and experiences and is intended primarily as an introduction to the interpretation of the common nature materials and phenomena of the home region with special reference to their use in the elementary schools. It corresponds to course 1 in residence and embraces some six of the following topics: (1) common birds of the locality and their relation to agriculture; (2) life-histories of some insects and their economic importance; (3) identification of other animals of the region, their habits and habitats; (4) the domestic animals with a study of their history, breeding, and the laws of heredity involved; (5) the trees

and shrubs and a brief sketch of the problem of forestry; (6) seeds and seedlings together with the elementary principles of seed selection and the physiology of growth; (7) the spore-bearers and the problem of community health involved in the life-histories of some of the tiniest of them; (8) the plant societies of the region with discussion of the factors involved in their location, limits, and relations. Topographic maps, areal maps, and soil maps of the State or United States Geological Survey will be used whenever available. Unidentified material should be collected and forwarded for identification. Students are advised not to register for this course during the Winter Quarter. Mj. ASSOCIATE PROFESSOR DOWNING.

2. Regional Studies.—The work of this course will be directed toward a study of the region, considered as a whole, which lies within convenient reach of the student. It corresponds to course 3 in residence and involves a study of: (1) the physical subdivisions of the area as well as a study of the causes which have given rise to these subdivisions; (2) the physiographic history of the area, its genesis and development; (3) the present content of plant life with reference to the factors which have influenced its entrance, development, and distribution in the area; (4) the present content of animal life, including the factors which have influenced its entrance, development, and distribution in the area. The work presupposes at least high-school courses in physical geography, botany, or zoölogy. Mj. ASSOCIATE PROFESSOR DOWNING.

3. School Gardening and Elementary Agriculture.—The course is intended to include a study of the elementary principles of agriculture necessary to relate the activities of the school to the agricultural life of the country. These activities naturally center about the school garden; hence these studies include reading and experimental work on such topics as (1) the planning and planting of the school and home grounds; (2) the place of the school garden, how it should be planned and related to the other departments of the school; (3) the best trees for school and home grounds and how they should be planted; (4) the best plants for the school garden and the best methods of culture; (5) propagation from seeds, cuttings, and bulbs, in window boxes, hotbeds, and out of doors; (6) plant-breeding, its scope and results; (7) weeds, their identification and control; (8) window gardening in the school and home; (9) plant-diseases and insect-enemies, their recognition and control; (10) soils, their physical and chemical nature; (11) fertilizers, their composition and use; (12) special problems in agriculture peculiar to the locality which need recognition and discussion in the school. The exercises are of such a nature that they make use of the material which may be available in any particular locality, while suggestions will be offered and assistance given in the study of local problems. Mj. DR. FULLER.

CLI. SCHOOL-LIBRARY ECONOMICS

1. Literature for Children.—This course is designed for teachers, librarians, parents, social workers, and writers for children. It aims (1) to give a survey of the field of literature for children; (2) to get at the principles underlying the selection of such literature; (3) to deal concretely and practically with certain problems of selection. It attempts to organize and to give new meaning to the mass of literature already read by the student as well as to direct his study along new lines. The course is equivalent to course 31 in residence and deals with the following topics: (1) the young child and the book; (2) the adolescent and the book; (3) institutional factors, as: relation between school and library, Sunday school, the home; (4) the psychology and the hygiene of reading; (5) tested and graded lists of books through the twelve grades of school; (6) historical survey of books for children in America; (7) influence of England, France, and Germany on literature for children; (8) qualities and form, as: simplicity of plot, rapidity of style, narration, drama, etc.; (9) selected classics as literature for children: *Iliad*, *Odyssey*, *Nibelungenlied*, *Morte D'Arthur*, *Aesop's Fables*, *Arabian Nights*, *Shakspeare's Plays*, *Robinson Crusoe*, *Pilgrim's Progress*, *Gulliver's Travels*, *Alice in Wonderland*; (10) *Mother Goose*, the fairy tale, the ballad; (11) poetry for the

young—principles of selection; (12) oral interpretation and reading of literature; (13) the Bible; (14) notable fiction; (15) scientific books—the book as a tool; (16) dramatic instinct—Shakspeare for the young; (17) illustrated books for children. The books used in the course are to be found in ordinary public libraries; the pamphlets and lists can be procured at small cost. A few reproduced pages from old and rare children's books will be furnished. For those interested in building up a children's library both the most expensive and also the cheaper editions will be indicated. Mj. MISS BLACK.

LIBRARY SCIENCE

1. Technical Methods of Library Science.—This is an elementary course designed especially for those who are already in library positions, and are unable to leave for resident study. It deals chiefly with cataloguing and classification, with a few general lessons on accessioning, shelf-listing, book-binding, gift work, periodicals, and loan systems. It is felt that no library training can be complete without personal familiarity with the "tools" of the profession and modern methods of work. Hence it is hoped that students taking this course will find it possible later on to supplement the work thus begun by resident study at some library school. While credit is not given for correspondence courses in any such school, familiarity with library methods will make residence work easier for the student. As preparation for this course two years of college training or its equivalent is required. Practical experience in library work will count much in the applicant's favor. The course consists of twenty-four lessons. Mj. MISS ROBERTSON.

CLV. AESTHETIC AND INDUSTRIAL EDUCATION

1. Elementary Drawing and Painting.—All teachers would like to be able to draw. Most teachers in the elementary schools are expected to teach drawing. This course aims to present the subject of drawing and painting in such a way that at its completion the student will understand how to teach drawing to children and will also have some dexterity in the art. The degree of skill attained in both will depend somewhat upon natural ability and previous training but neither is demanded by this course. The work is arranged under the following heads: (1) illustrative sketching and drawing; (2) object-drawing; (3) nature-drawing; (4) figure-drawing; (5) animal-drawing; (6) picture-study and outdoor sketching. The course discusses the place of drawing in the elementary schools, its relation to other subjects, suitable problems for the various grades and methods of presentation. When completed it gives an illustrated course in drawing and painting for elementary schools. Mj. MISS WHITTIER.

2. Elementary Design.—All teachers want to know "How" and "When" to present a subject. All students desire to know "Why" a subject is presented. This course aims to answer the "How," "When," and "Why" of teaching design in the elementary schools. It is planned to meet the needs of kindergartners, grade teachers, art teachers, and all who wish a good working foundation in design. It discusses suitable problems and presents methods of teaching design to children in the elementary schools. It is not primarily a technical course, and previous knowledge of the subject is not essential. The work is presented in the following five groups: (1) printing; (2) units of design; (3) borders and surfaces; (4) color; (5) structure. The number of lessons in each group will vary according to the student's expressed needs, that is the emphasis may be upon methods of teaching, technique, or the history of design. When finished it gives a complete and fully illustrated graded course in elementary or introductory design. Mj. MISS WHITTIER.

3. Advanced and Household Design.—This course presents the subject by means of theory and practice simplified to meet the problem of the average citizen of average income and undertakes to stimulate and develop super-average aesthetic comprehension and power. It presents the principles underlying the use

of color, and of structure and decorative design, and calls for sufficient illustration to insure a clear understanding of the basis for judgment. It discusses practical and aesthetic values regarding the home, exterior and interior, and in a general way, civic environment and historic types. Teachers interested in upper-grade and high-school drawing should consider the possibilities for broader interpretation and application to life needs in the subject of Household Design. The technical work includes sufficient practice in drawing and construction to enable the student to record ideas. Mj. MISS WHITTIER AND MISS CLARK.

4. Costume Design.—This course is planned for upper-grade and high-school work and gives a good working knowledge of the fine qualities in raiment which express in best terms the superior mental and physical character of individuals. It establishes standards for judging and presenting the principles underlying drawing, structural design and color in their direct and corrective application to costume. It discusses the place and contribution of the subject to the individual, the problem of fashion, and historic types, using these as contributive material to originality of conception. The technical work includes sufficient practice in drawing for the expression of ideas and to help graphic memory. Mj. MISS WHITTIER AND MISS CLARK.

NOTE.—Related courses will be found under Departmental Nos. I, IB, and VIA.

DRAWING

An introductory course—**Freehand Drawing**—and three series of courses: **A. Mechanical Drawing, B. Architectural Drawing, C. Descriptive Geometry** afford opportunity to begin the study of drawing, and to continue it to a point where knowledge of higher mathematics—e.g., calculus, mechanics, etc.—conditions further progress. "Freehand Drawing" with any one of the series offers what is usually done in the first two years in the best technological schools. While open to anyone they will appeal especially to those who wish thorough training in the fundamentals of the science, whether for immediate practical purposes in the office, shop, or classroom, or as a preparation for Mechanical, Electrical, and Civil Engineering, or for Architectural Drawing.

One may take any major in any one of the three series for which he is prepared, though in most cases it will be found advisable, if not necessary, to begin with the first major. Admission to any major except the first one of a series is conditioned upon the approval of the instructor, who will base his decision upon a statement and exhibit of previous work. The University reserves the right to retain one drawing from the student's set in each major, and to determine whether admission or college credit shall be allowed.

The materials required in any major will be sent, express collect, upon receipt of the amount given, which is the lowest that can be quoted for a good quality. The weight of the case and the price of the textbook will enable the student to determine the exact cost of each major.

Material required in "Freehand Drawing."—Six sheets of Whatman's cold-pressed paper, 22×30 inches; 8 sheets of chalk-talk paper, 14×20 inches; 3 Koh-i-noor pencils, 3H; 1 pencil eraser, No. 211; 1 dozen thumb tacks, steel-stamped, $\frac{3}{8}$ inch diameter; 1 box of French charcoal; 1 bottle of fixatif, two-ounce; 1 tin atomizer; 1 box "Star" chalks, six assorted colors; 1 drawing-board, 18×24 inches; and models of different solids.

Material required in courses A 1, 2, 3, 4, 5; B 2, 3, 4, 5; and C 1, 2, 3, 4.—One drawing-board, 18×24 inches; 1 set, drawing instruments in folding pocketbook style case, No. 422; 1 T-square, mahogany, ebony-lined fixed head, 24 inches; 1 amber triangle, 45°, 8 inches; 1 amber triangle, 30°×60°, 10 inches; 1 triangular boxwood rule, architect's 12 inches; 1 flat boxwood scale, 6 inches, divided $\frac{1}{16}$ and $\frac{1}{32}$; 1 French amber curve, No. 1; 1 dozen sheets of Whatman's hot-pressed paper, 22×30 inches; 6 Koh-i-noor pencils, assorted, 3H and 6H; 1 bottle each of Higgins' carmine, black, and blue ink; 1 dozen thumb tacks, steel-stamped, $\frac{3}{8}$ inch diameter; 1 Faber's pencil-eraser, No. 211; 1 Faber's ink-eraser, No. 2604; 1 Hardtmuth's soft pliable rubber, No. 12; 1 file, 4 inches; 1 pen-holder; 3 ball-pointed pens.

Freehand Drawing.—A course preparatory to each of the series described below except the second, in which it is required. It gives that thorough training of the eye and hand which is so necessary in all work requiring accuracy in observation and measurement. While this is primarily its purpose, the course offers the work required in most of the public schools of the country preparatory to teaching Freehand Drawing. Although it does not deal with the pedagogy of the subject it provides a practical and pedagogically correct working basis in this subject, and can be recommended, therefore, to all grade teachers, and to others who are expected to teach Freehand Drawing in connection with their special work. The course embraces the following divisions: (a) *Freehand Projection*—to familiarize the student with the various views of an object and their proper arrangement upon the sheet, by which all the facts of size, form, and proportion are shown, together with perspective sketches of the object, 6 drawings; (b) *Model Drawing of Type-Forms*—outline sketching in perspective, of the cube, cylinder, and other geometrical solids, introducing the principles of perspective as applied to small objects, 6 drawings; (c) *Model Drawing, Groups*—outline drawings of solids and other objects to teach composition and perspective, 6 drawings; (d) *Light and Shade*—pencil studies of the type solids and original groups of objects, to give practice in obtaining quick effects in black and white, 6 drawings; (e) *Color Work*—color studies with chalks, to teach an appreciation of surface, texture, and the proper juxtaposition of colors as applied to groups of objects, 6 drawings; (f) *Pen and Ink Studies* of single objects and original groups, involving outline, light and shade, texture, surface, etc., 6 drawings; in all 36 drawings. No textbook is required. Cost of materials ready for shipment, \$3; weight of package, 18 pounds. Mj. MR. FERSON.

A. Mechanical Drawing.—

1. *Projective Geometry.*—(a) Preparatory work: this will include the use of instruments, laying out, penciling, inking-in, lettering; with practice work to learn accuracy of measurement and of line, 3 drawings. (b) Graphic geometry; this is intended to give the student a mastery of the various geometrical constructions which form the basis of all work in projection, descriptive geometry, and constructive drawing, whether mechanical or architectural, and at the same time to give facility in the use of the instruments, 6 drawings. (c) Projection: this will include the projection of points, lines, planes, and solids, 6 drawings; in all, 15 drawings. Textbook: Linus Faunce's *Mechanical Drawing*, \$1.35. Cost of materials ready for shipment, \$15; weight of package, 18 pounds. Mj. MR. FERSON.

2. *Constructive Drawing.*—(a) Intersections, including conic sections, oblique sections, intersections, and developments, 6 drawings. (b) Shadows: the first angle projection of shadows, 3 drawings. (c) Isometric projections with projections of shadow, 3 drawings. (d) Oblique or cabinet projection, 3 drawings; in all, 15 drawings. Textbook and equipment for this course same as for A 1. Prerequisite: course A 1. Mj. MR. FERSON.

3. *Machine Details.*—This course is intended to familiarize the student with the various parts of machines that have come to be recognized as standards, and which are used in the construction of new machines. Standard sections for materials, fastenings, couplings, bearings, engine details, etc., 10 drawings. Textbook: Low and Bevis' *Manual of Machine Drawing and Design*, postpaid, \$2.50. The equipment for A 1 will suffice for this course also. Prerequisite: course A 2. Mj. MR. FERSON.

4. *Gear Construction.*—Spur-gears, bevel, spiral, worm, elliptic, involute and cycloid teeth, hubs, arms, rims, etc., 10 drawings. Textbook: George B. Grant's *Teeth of Gears*, postpaid, \$1.10; equipment, same as for A 1. Prerequisite: course A 3. Mj. MR. FERSON.

5. *Shop Drawing.*—(a) Machines from freehand sketches and measurement—details and an assembled drawing of some piece of machinery; (b) tracing and blue-printing. Five drawings with their tracings and blueprints will be accepted for this course; in all, 15 sheets. No textbook is required; equipment, same as for A 1. Prerequisite: course A 4. Mj. MR. FERSON.

B. Architectural Drawing.—This series gives the student a good working knowledge of the essentials in architecture; history, the orders, the principles of the designing of dwelling-houses, office work in rendering, perspective, and detailing, together with tracing and blue-printing. As the success of the student in architecture is so completely dependent upon his knowledge of, and practice in, all the departments of freehand drawing and sketching, it is absolutely essential that the introductory major, "Freehand Drawing," should be taken first, so it is made the first major of the series.

1. *Freehand Drawing.*—Mj. MR. FERSON.

2. *Projective Geometry.*—Same as A 1. Mj. MR. FERSON.

3. *Constructive Drawing.*—Same as A 2. Mj. MR. FERSON.

4. *Architectural Details.*—(a) "The Orders," 10 drawings; (b) details of architectural construction from measurements, 2 drawings; in all, 12 drawings. Textbooks: Hamlin's *Architectural History*, postpaid, \$1.75; and Ware's *American Vignola*, Part I. "The Orders," postpaid, \$2.50. Equipment for this course, same as for A 2. Prerequisite: course B 3. Mj. MR. FERSON.

5. *Architectural Design.*—(a) Domestic plans, from copy, 4 drawings; (b) design of some small building, 4 drawings; (c) tracings and blueprints, 4 tracings with their prints, 8 sheets; in all, 16 drawings. No textbook is required. Equipment, same as for A 1. Prerequisite: course B 4. Mj. MR. FERSON.

6. *Pictorial Architecture.*—(a) Architectural perspective, 3 drawings; (b) architectural rendering in pen and ink, 4 drawings; (c) rendering in color and wash, 4 drawings; in all, 11 drawings. Textbooks to be designated. Equipment, same as for A 1. (In preparation.) Prerequisite: course B 5. Mj. MR. FERSON.

C. Descriptive Geometry.—This series is for those who wish to go into the higher mathematics, but have had no training in the graphic side of the subject. It will consist of:

1. *Projective Geometry.*—Same as A 1. Mj. MR. FERSON.

2. *Constructive Drawing.*—Same as A 2. Mj. MR. FERSON.

3. *Theoretical Graphics.*—Problems in points, lines, planes, and straight-surfaced solids; 15 drawings. Textbook: Church's *Descriptive Geometry*, postpaid, \$2.65; equipment, same as for A 1. Mj. MR. FERSON.

4. *Practical Graphics.*—Curved and warped surfaces, shades and shadows, developments; 15 drawings. Textbook: same as for C 3; equipment, same as for A 1. Mj. MR. FERSON.

VII. COMPARATIVE RELIGION

1. Introduction to the History of Religion.—This course is elementary in character and aims to conduct the student into the study of the general principles of religion and to outline the history of the various religions of the world. Mj. DR. CONARD.

2. The Religion of Uncivilized Peoples.—This course surveys primitive religious customs and beliefs, noting their survivals in higher religions. The first part of the course consists of a general study of the religion of uncivilized peoples. In the second part a special study is made of the religion of the North American Indians, or of some other uncivilized people, concerning whom material is available to the student. Mj. DR. CONARD.

3. Comparative Theology: The Idea of God.—This is a cursory study of the idea of God as seen in primitive myth and cult, and in the religious rites and literature of the chief historic religions. Prerequisite: course 1 or 2 or an equivalent. Mj. DR. CONARD.

4. The Religions of India.—The aim of this course is to give a brief outline of the mythology and religion of the *Vedas* and an account of the three great Hindu religions—Brahmanism, Buddhism, and Hinduism. A knowledge of these is absolutely essential to the student of comparative religion. Mj. DR. CLARK.

XLI. OLD TESTAMENT LITERATURE AND INTERPRETATION

AND

VIII. SEMITIC LANGUAGES AND LITERATURES

1. An Introduction to the Old Testament.—This study emphasizes such points as will familiarize one with the outline features of the books of the Old Testament. It describes: (1) The means adopted to preserve the ancient records, (2) the method of compiling and editing those documents; (3) the historical background of the Old Testament books; (4) the literary character of each book; (5) its chief doctrinal teachings; (6) its place in the scheme of biblical revelation; and (7) the best literature with which to pursue and solve its problems. The work is planned on a practical basis, and aims to give students a reasonably complete idea of the new and real advances that have been made in the last few decades in the understanding of the Old Testament. **Mj. PROFESSOR PRICE.**

2. Outline of Hebrew History.—A survey study of the history of the Hebrew people as presented in the Old Testament from the period of the conquest and establishment in Canaan to the Maccabean struggle and the close of Old Testament history. The course embraces a preliminary sketch of the patriarchal period, with a more detailed study of the conquest, the period of the Judges, the united and divided kingdoms, the exile, the revival of Judah, and the beginnings of Judaism. The bearings of prophetic activity upon the history and literature also receive consideration. **Mj. ASSOCIATE PROFESSOR J. M. P. SMITH AND MR. HENRY.**

3. Old Testament Prophecy.—The purpose of this course is to aid in securing a better understanding of the rise and development of prophecy in Israel. Some of the more important matters to be considered are: (1) the controlling ideas in the teaching of each of the great prophets; (2) the relation of the prophet and his work to the political and social movements of his day; (3) the attitude of the prophet toward the priest and priestly institutions; (4) the place of prophecy in the preparation for the work of Christ. **Mj. ASSOCIATE PROFESSOR J. M. P. SMITH AND MR. HENRY.**

4. Old Testament Worship.—A study of the element of worship and the institutions and literature connected with worship in the Old Testament. Special consideration will be given to such topics as: (1) the priest; (2) place of worship; (3) sacrifice; (4) feasts; (5) tithes; (6) clean and unclean, etc.; (7) the origin and character of the Sabbath; (8) the date and character of Deuteronomy; (9) the origin of the Levitical legislation; (10) the composition of the Hexateuch. Attention will be given to the characteristic ideas of the priest as distinguished from those of the prophet, and to the growth of priestly influence in Israel's religious life. **Mj. ASSOCIATE PROFESSOR J. M. P. SMITH AND MR. HENRY.**

5. Elementary Hebrew.—Includes the mastery of the Hebrew of Genesis, chaps. 1-3; the study of the most important principles of the language in connection with these chapters; Hebrew grammar, including the strong verb and seven classes of weak verbs; and the acquisition of a vocabulary of four hundred words. **Mj. ASSOCIATE PROFESSOR J. M. P. SMITH AND MR. HENRY.**

6. Intermediate Hebrew.—Includes the critical study of Genesis, chaps. 4-8, with a review of Genesis, chaps. 1-3; the more rapid reading of fourteen chapters in I Samuel, Ruth, and Jonah; the completion of the outlines of Hebrew grammar and an increase of vocabulary to eight hundred words. **Mj. ASSOCIATE PROFESSOR J. M. P. SMITH AND MR. HENRY.**

7. Exodus and Hebrew Grammar.—Includes the critical study and translation of Exodus, chaps. 1-24; a more detailed study of Hebrew grammar; an inductive study of Hebrew syntax; and the memorizing of three hundred additional words and of several familiar psalms in Hebrew. **Mj. ASSOCIATE PROFESSOR J. M. P. SMITH AND MR. HENRY.**

8. Haggai, Zechariah, and Malachi.—A course of twenty recitations, including the critical and exegetical study of these books; the lexicographical study of

two hundred important words; the principles of Hebrew prophecy; a study of Hebrew syntax, especially the subjects of the tense and sentence; the Hebrew accentuation; and the memorizing of about eight hundred words. M. ASSOCIATE PROFESSOR J. M. P. SMITH AND MR. HENRY.

9. Elementary Arabic.—An inductive study of the elementary principles of Arabic grammar. The Arabic grammar of Socin together with the exercises and stories contained therein furnish the basis of the work. Mj. DR. LUCKENBILL.

10. Advanced Arabic.—Three majors of advanced work may be taken in the following order:

A. *Selected Suras of the Koran.*—Mj.

B. *Historical Prose.*—Mj.

C. *Arabic Fables.*—Mj.

DR. LUCKENBILL.

11. Elementary Assyrian.—The cuneiform text as well as the transliteration is used from the beginning. The student learns the most common cuneiform signs, the strong verb and all classes of weak verbs, and the fundamental principles of the language. A knowledge of Hebrew is prerequisite. M. PROFESSOR BERRY.

12. Intermediate Assyrian.—This includes the reading of several hundred lines of historical cuneiform text, with special attention to vocabulary, a further study of Assyrian grammar, including syntax, and the learning of most of the remaining cuneiform signs that are in frequent use. M. PROFESSOR BERRY.

13. Elementary Egyptian.—Study of (1) the speech of Thutmosis I to the priests of Abydos; (2) the romance of Sinuhe (transliterated from the Hieratic) in Erman's *Chrestomathy*. It includes the acquisition of the commonest signs, and the grammatical principles of the language of the classic period. Mj. PROFESSOR BREASTED.

Members of the Semitic Department will endeavor to arrange informal courses for students who are prepared to do work of an advanced nature, whenever practicable.

NOTE.—Related courses will be found under Departmental Nos. IV, VII, XVI.

XLII. NEW TESTAMENT AND EARLY CHRISTIAN LITERATURE

AND

IX. BIBLICAL AND PATRISTIC GREEK

1. Jewish History in the Time of Jesus.—The Jewish people in the Roman Empire; geography, population, and languages of Palestine; influence of Hellenism; political events and parties; industrial, social, and intellectual life; religious groups and institutions; moral and religious ideas—an introduction to the study of the life and teaching of Jesus. This course corresponds in general to course 1 in residence, which is required of candidates for the D.B. degree. Mj. ASSOCIATE PROFESSOR VOTAW.

2. Life of Jesus.—A comprehensive and systematic historical study of Jesus' purpose, method, message, deeds, and personality, in general aspects. The forty lessons include such topics as: the characteristics of the gospels as historical sources, Jewish messianism, Jesus' aim and method in His ministry, the parables, the miracles, the Christology of the gospels, and the historical significance of Jesus. The course constitutes an introduction to the study of the teaching of Jesus. A knowledge of New Testament Greek is not required, but is valuable. To accommodate two well-defined types of students the course is presented in two grades; in its simple form it corresponds in general to the college course New Testament 106; in its advanced form to the graduate course New Testament 5. Mj. ASSOCIATE PROFESSOR VOTAW.

3. The Teaching of Jesus.—The four gospels will be investigated as to their origin, characteristics, trustworthiness, and the manner of their use for ascertaining the teaching of Jesus. The chief ideas and characteristics of Judaism in Jesus' day will be studied as the historical background to his teaching; also the development of Jesus' own religious experience and ideas, and the aim, limits, style, and method of his teaching. Then will follow topically a comprehensive, careful study of the content of Jesus' teaching. Mj. ASSOCIATE PROFESSOR VOTAW.

4. History of the Apostolic Age.—This course, corresponding to course 8 in residence, covers the history of Christianity from Jesus' death to the end of the first century. Among the more important topics studied are: (1) the experiences of the primitive Christians at Jerusalem; (2) the beginnings of missions; (3) the relations between Judaism and Christianity; (4) the missionary work of Paul; (5) Christianity's contact with the religions of the Greco-Roman world; (6) the growth of church ritual and organization; (7) the origin and content of early Christian doctrines; (8) the rise of Christian literature. Mj. ASSOCIATE PROFESSOR CASE.

5. Introduction to the Books of the New Testament.—

A. *Life of the Apostle Paul and Introduction to the Pauline Epistles.*—The work in this course is done on the basis of a handbook, containing an outline of the life of Paul, topics for special study, with references to literature, and a brief introduction to the epistles. The aim is to prepare the student for the interpretation of the letters of Paul and for an understanding of his personality and theology. Mj.

B. *Introduction to the Gospels, Acts, and General Epistles.*—Includes the study of the occasion and purpose of each book and its general content and structure. Mj.

PROFESSOR BURTON AND ASSISTANT PROFESSOR SEVERN.

6. The Ethical Teaching of the New Testament.—The moral ideal of Jesus is to be studied on the basis of the Sermon on the Mount, supplemented by material from other portions of the gospels. The specific principles set forth by Jesus, and the application which he made of them to his own life and to the conduct of others, will be interpreted. Similarly, the moral ideal of Paul, with its principles and applications, will be considered. Finally, there is a comparison and summary of the whole ethical teaching of the New Testament. Mj. ASSOCIATE PROFESSOR VOTAW.

7. Elementary New Testament Greek.—A course for beginners, presupposing no knowledge of Greek. It aims to secure, by an inductive study, the absolute mastery of chaps. 1-4 of the Gospel of John, and the essential facts and principles of the language. Emphasis is placed upon the writing of exercises in Greek. Mj. ASSISTANT PROFESSOR SEVERN.

8. Intermediate New Testament Greek.—This course is designed for those who have completed course 7, and for those who wish to review their Greek in connection with the New Testament. It comprises the thorough study of the entire Gospel of John, and the reading at sight of the First Epistle of John; also the acquisition of vocabulary and the most general principles of grammar. One who has diligently worked through this course should be able, with the aid of the lexicon, to read the New Testament with comparative ease. Mj. ASSISTANT PROFESSOR SEVERN.

9. The Greek of the New Testament.—Using the Gospel of Mark, a thorough study is made of the syntax of New Testament Greek. The course corresponds to course 41 in residence and is recommended for the D.B. degree. Prerequisite: courses 7 and 8 or equivalent instruction in classical Greek. Mj. ASSOCIATE PROFESSOR VOTAW.

10. The Apostolic Fathers.—The course includes a study of (1) the early Christian literature ca. 95-150 A.D.; (2) problems of date, authorship, and purpose; (3) reading of the Greek; and (4) studies in theology and polity. Outlines of the literature will be provided, and reports covering the topics given

above will be required. The later development of New Testament ideas and practices, as reflected in this early Christian literature, will be especially emphasized. Mj. ASSOCIATE PROFESSOR GOODSPEED AND ASSISTANT PROFESSOR SEVERN.

ENGLISH THEOLOGICAL SEMINARY

3B. New Testament Times in Palestine.—(Cf. p. 72.) ASSOCIATE PROFESSOR VOTAW.

XLIV. SYSTEMATIC THEOLOGY

1. Outline Course in Systematic Theology.—The course is intended to give a general acquaintance with the field of systematic theology, with especial reference to the problems which are today attracting chief attention. The first half of the course is devoted to a general introduction to the subject; the second half to the content of systematic theology. The contents of textbooks prescribed are to be carefully analyzed and criticized on the basis of questions and topics furnished by the instructor. This study is of real value as a general survey, but does not command credit for the D.B. degree. Mj. PROFESSOR G. B. SMITH.

2. Systematic Theology.—

A. This course discusses the task and method of systematic theology in the light of modern conditions, and sets forth the Christian doctrine of God. It will be accepted as the equivalent of the first prescribed course (Systematic Theology I) for the D.B. degree. Mj.

B. This course covers the doctrines of sin and salvation, and the person and work of Christ. It will be accepted as the equivalent of the second prescribed course (Systematic Theology II) for the D.B. degree. Mj.

C. This course deals with the religious and ethical implications of the Christian experience, including a study of regeneration, of the Christian life and the Christian hope. It will be accepted as the equivalent of the third prescribed course (Systematic Theology III) for the D.B. degree. Mj.

PROFESSOR G. B. SMITH.

3. Christian Ethics.—This course sets forth the moral aspects of the Christian religious experience. The Christian moral ideal is differentiated from the naturalistic theories of ethics set forth by the Greek philosophers and by modern utilitarian and evolutionist schools, and from the theory of supernatural legalism as exhibited in Judaism. The ethical ideal of Jesus is carefully studied with suggestions as to the method of determining duty in the various fields of human activity. An analysis of the important social problems of today serves to call attention to the field of constructive Christian activity. Mj. PROFESSOR G. B. SMITH.

4. Apologetics.—This course is intended to acquaint the student with the general outlines of a defense of Christianity. In the first place the content of Christianity which must be defended is sought on the basis of a historical study of the sources and history of Christianity. The ultimate elements of Christian faith are then defined and justified in the light of modern thought. Questions and topics suggested by the required textbooks are to be discussed in written papers by the student. Prerequisite: course 2, or an equivalent. Mj. PROFESSOR G. B. SMITH.

5. The Theological Significance of Leading Movements of Thought in the Nineteenth Century.—The philosophy of Kant and of Hegel, the theological principles of Schleiermacher and of Ritschl, the development of biblical criticism, the growing influence of natural science, the rise of the philosophy of evolution, and the significance of the Pragmatist movement, for an understanding of religion, are the chief topics for study. The problems raised for theology by these movements will be carefully considered. Those taking the course should have access

to an adequate library, or should be willing to incur considerable expense for books. Prerequisite: course 4, or its equivalent and a general acquaintance with the history of modern philosophy. (Informal.) DMj. PROFESSOR G. B. SMITH.

NOTE.—Related courses will be found under Departmental Nos. I, IA, VI, and VII.

ENGLISH THEOLOGICAL SEMINARY

4B. Outline of Systematic Theology.—(Cf. p. 72.) PROFESSOR GREENE.

XLV. CHURCH HISTORY

1. Outlines of Church History.—A complete survey of the whole field of church history from the founding of the church in Jerusalem to the present time, with special emphasis upon the Ancient (100–800 A.D.) and Reformation (1517–1648 A.D.) periods. Some of the most important subjects that will come under investigation are: the conflict of the church with heathenism in the Roman Empire; the rise and growth of the papacy; heresies, controversies, and parties within the church; the missionary expansion of the western church; the struggle between the papacy and the empire for supremacy; the rise and progress of the Reformation in Germany, France, Switzerland, England, and Scotland; and the recent development of the Protestant churches in Europe and America. Mj. ASSISTANT PROFESSOR GATES.

2. The Protestant Reformation.—Extent and state of Christendom at the opening of the sixteenth century; new forces that sweep away the old order of things; Zwingli, Luther, Calvin, as expressions of the spirit of the new era; estimate of the movement in its relations to the general historic process. Mj. ASSOCIATE PROFESSOR MONCRIEF.

3. The Missionary Enterprise of the Twentieth Century: Principles and Methods.—It is proposed in this course to make an outline study of the principles underlying the present-day Protestant missionary enterprise, and the methods it employs in the light of the experience of the first hundred years of its history. Interest in foreign missions was never before so widespread nor criticism of it so keen and intelligent. The time is approaching for the construction of a science of missions. Large accumulations of material in the form of the reports of missionary societies and conferences, biographies, and correspondence are available. All pastors and Sunday-school teachers, all persons, men or women, responsible for the missionary activities of the church, and in particular all candidates for foreign missionary service should find this study profitable. Mj. PROFESSOR PARKER.

The Church and the Roman Empire.—(Cf. description under History 14.) Mj. ASSISTANT PROFESSOR WALKER.

The Church and the Barbarians.—(Cf. description under History 15.) Mj. ASSISTANT PROFESSOR WALKER.

XLVI. PRACTICAL THEOLOGY

1. The Theory of Preaching.—This course corresponds to residence course 1 and embraces a study of the character and purpose of the sermon, the methods of preparation, and the manner of delivery. The laws of effective popular discourse are studied inductively in connection with the preparation of sermons by the student. Mj. PROFESSOR SOARES.

2. Survey Course in Religious Education.—An endeavor will be made to acquaint the student with the very significant field of religious education now receiving so much attention from all thoughtful workers in church and in general educational lines. In doing this an outline study of child development and the child's religious interests; the social agencies of religious education, such as the home, public school, and library; and the underlying principles of modern education in their relation to religious education will be discussed. Special

attention will be given to the Sunday school, its equipment, administration, properly graded curriculum, the training of its teachers, and its expressional activities. Instruction will be by means of textbooks, topics for special study, reports on local observation of Sunday schools, and questions. The course is intended for pastors, Sunday-school superintendents, and lay workers, and will be adapted to the needs of the individual student. Anyone who has had high-school training can follow the course with profit, but additional work and "Elementary Psychology" as a prerequisite will be required of those who wish university credit for the course. Mj. PROFESSORS SOARES AND EVANS.

NOTE.—Related courses will be found under Departmental Nos. I, IA, IB, VI, VII.

ENGLISH THEOLOGICAL SEMINARY

1B. Homiletics.—(Cf. below.) PROFESSOR GREENE.

2B. Outline Course on Pastoral Duties.—(Cf. below.) PROFESSOR GREENE.

VII. THE ENGLISH THEOLOGICAL SEMINARY

I. GENERAL INFORMATION

The English Theological Seminary of the University of Chicago is intended to meet the needs of students who have not had the advantages of a college education and is open to all denominations of Christians. The applicant must present a ministerial license, or a certificate of ordination, or a statement from the church of which he is a member, approving of his purpose of devoting himself to the Christian ministry or other Christian service. He must also furnish the University, when requested, information concerning his church relations, etc. He will pay the University matriculation fee, \$5, once, and \$3 for each English Theological Seminary course chosen. The reinstatement fee for each of these courses is \$2.

II. COURSES OF INSTRUCTION

NOTE.—No credit toward any degree is allowed for these courses. They count only toward the English Theological Seminary certificate. A description of any of the following courses will be sent on application.

1B. Homiletics.—Mj. PROFESSOR GREENE.

2B. Outline Course on Pastoral Duties.—Mj. PROFESSOR GREENE.

3B. New Testament Times in Palestine.—Mj. ASSOCIATE PROFESSOR VOTAW.

4B. Outline of Systematic Theology.—Mj. PROFESSOR GREENE.

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JOHN ARTHUR POWELL, PH.D., Extension Assistant in English.

III. GENERAL INFORMATION

Extra-mural Teaching.—All non-resident work for credit is conducted through the Correspondence-Study Department.

1. Teaching by Correspondence.—Experience has shown that many subjects can be taught successfully by correspondence. Direction and correction can often be given as effectively in writing as by word of mouth. Obviously self-reliance, initiative, perseverance, accuracy, and kindred qualities are peculiarly encouraged and developed by this method of instruction.

2. Purpose and Constituency.—Through the Correspondence-Study Department the University offers a large number of the courses given in the classrooms of its different divisions so that those whose formal schooling has been interrupted may continue their studies. The aim is to extend as fast and as far as possible the means and privileges of academic training. Besides contributing to culture, many of the courses, because of their bearing on problems of everyday life, may be turned to immediate practical account.

The courses appeal, especially, to the following classes: (1) students preparing for college or professional schools; (2) college students who are unable to pursue continuous residence study; (3) grammar and high-school teachers who cannot avail themselves of resident instruction; (4) instructors in higher institutions who desire assistance in the advanced study of some subject; (5) professional and business men who wish to supplement their training; (6) ministers and Bible students who would fit themselves better to use the Scriptures; (7) parents uncertain how to deal wisely with their children; in short, anyone anywhere who desires broader knowledge or more thorough scholarship.

3. Method of Instruction.—Each correspondence course is designed to be equivalent to the corresponding residence course and contains therefore a definite amount of work. A **Major** (Mj.) calls for an amount of work which a student in residence would be expected to accomplish in twelve weeks, reciting five hours per week. A **Minor** (M.) calls for one-half as much work as a Major. The resident student who does full work completes three Majors every three months, but the correspondence student is allowed from twelve to fifteen months, according as he registers late or early in the quarter, for completing whatever number of Major or Minor courses he applies for (cf. § 6, *e* and *g*). On the other hand, he is permitted to finish courses as rapidly as is consistent with good work.

Courses are of two kinds, formal and informal.

a) The "formal" course furnishes a systematic and progressive presentation of the subject in a given number of lessons (cf. § 6, *o*). Each lesson contains: (1) full directions for study, including references to the textbooks by chapter and page; (2) necessary suggestions and assistance; (3) questions to test the student's methods of work as well as his understanding of the ground covered. After preparing for recitation the student writes his answers to the questions and mails them to the instructor, together with any difficulties which may have arisen during his study. This recitation paper is promptly corrected and returned. In like manner every lesson is carefully criticized by the instructor and returned, so that each student receives *personal guidance and instruction* throughout the course.

b) The "informal" course is designed for students who are pursuing studies of an advanced nature. The course is usually arranged between instructor and student to meet the particular needs of the latter. The formal lesson sheet is dispensed with, but the course is carefully outlined by the instructor, and the student is required to present satisfactory evidence that the work is being properly done. This evidence may consist of a number of short papers on special themes, a thesis covering the whole work, or it may partake rather of the nature of ordinary correspondence.

Courses are "formal" when not otherwise indicated.

4. Admission.¹—(a) No preliminary examination or proof of previous work is required of applicants for correspondence courses. Before matriculating or registering a student, however, the University does require certain information and reserves the right to reject applicants, or to recommend other courses than those chosen, if the data furnished on the application blank justify such action. If the applicant is rejected, or the substitution recommended is not accepted by the student, all fees are refunded. The application blank will be supplied upon request. *In every case it should accompany the fee for a new course.*

b) A correspondence student whose standing in one of the Colleges or Schools of the University has not been definitely determined is ranked as an *unclassified student*.

5. Recognition for Work.—(a) A certificate is granted for the satisfactory completion of the recitation work in any Major or Minor course.

b) Admission credit is given for courses covering college-entrance requirements, which are satisfactorily completed and passed by examination.

c) College credit is given for courses of a college grade satisfactorily completed and passed by examination (cf. § 6, b, 1).

d) If the student has a record of residence work in the University, credit gained through correspondence courses is immediately transferred to that record; if not, it is held in the Correspondence-Study Department until the student secures such a record.

e) See also "Regulations" a) and b), below.

6. Regulations.—(a) The University of Chicago grants no degree for work done wholly in absence. A *minimum* of nine Majors (three full quarters) in residence at the University of Chicago is an unvarying requisite for any degree.

b) Correspondence courses are applicable to the requirements for the different degrees as follows: (1) The candidate for a Bachelor's degree (A.B., Ph.B., or S.B.) may do eighteen of the required thirty-six majors of college work by correspondence. (2) The candidate for the medical degree (M.D.), or for the law degree (LL.B. or J.D.), or for the Master's degree (A.M. or S.M.) may not reduce the requirements for his degree *in absentia* because the University gives no instruction in Law or Medicine by correspondence, and the maximum resident time and study requirement for the Master's degree does not exceed the minimum requirement (nine months and nine majors) for any degree. (3) The candidate for the Doctor's degree (Ph.D.) may substitute correspondence for residence work *only* on approval, in advance, of the head of the department in which his work lies. Three years of resident graduate study are expected for

¹ If the student later comes to the University, he must satisfy admission requirements (see *Circular of Information* of the Colleges and Graduate Schools, pp. 91 ff.).

this degree. Very few non-resident students command the necessary library or laboratory facilities for graduate study.

NOTE.—The University of Chicago's Bachelor degree, or its full equivalent, is prerequisite for admission to candidacy for a Master's or a Doctor's degree. If a student presents a baccalaureate degree inferior to the University's degree by less than nine (9) majors he can make it equivalent by means of correspondence courses and thus be free to devote his entire time in residence to graduate work.

c) A student may begin a course for which he is prepared at any time.

d) An undergraduate student may not carry on correspondence work while in residence without the written permission of his Dean.

e) A student is expected to complete all the courses for which he pays at any one time, *within one year from the end* (i.e., March 23, June 23, September 23, December 23) of the quarter in which payment is made.

f) A student who, for any reason, does not report either by lesson or by letter within a period of ninety days may thereby forfeit his right to further instruction in the course.

g) Extension of time will be granted: (1) *for a period equal to the length of time which a correspondence student spends in resident study at the University of Chicago*, provided due notice is given the secretary and the instructor at both the beginning and the end of such resident study; (2) *for one full year from the date of expiration of the course*, if, on account of sickness or other serious disability, the student has been unable to complete the course or courses within the prescribed time (cf. § 6, e), provided (a) he secures the consent of the secretary and his instructor, and (b) pays \$4.00 for each Major course or \$2.00 for each Minor course he wishes to continue. Private arrangement for extension of time between the student and his instructor cannot be recognized by the Department.

h) In order to secure credit for a correspondence course, the student must pass an examination on it within six months from the end of the quarter in which he finishes the recitation work, either at the University or, if elsewhere, under supervision which has been approved by the University.

i) During an instructor's vacation a substitute will be provided, or the time for completing the course will be extended.

j) The fee for matriculation in the University (\$5.00) is required once, at the time of first registration, of each one who has not matriculated in the institution either as a resident or a correspondence student. The fee is general for the whole University.

k) The matriculation fee will not be refunded to a student whose application has been accepted (cf. § 4, a).

l) The tuition fee will not be refunded on account of a student's inability to enter upon or to continue a course.

m) The student must forward, with each lesson, postage (or, preferably, a stamped, self-directed envelope) for its return.

n) A student will be required to pay for but one Major of a Double Major (DMj.) course at a time, unless he applies for both Majors.

o) Ordinarily, a Major consists of forty and a Minor of twenty lessons; but there may be variations from this number in order to accommodate the work to the requirements of a particular course. Each course represents a definite amount of work (cf. § 3), the number of lessons into which it is divided being incidental.

p) A course announced as a Major may not be taken a Minor at a time.

q) Each correspondence course is equivalent to the corresponding residence course, and commands credit (cf. § 5) unless definite statement is made to the contrary.

r) All informal courses are Majors unless otherwise indicated.

7. Expenses.—(a) All fees are payable in advance.

b) The matriculation fee is \$5.00 (cf. § 6, j); the tuition fee for *each* Minor course is \$8.00; for one Major course, \$16.00. If a student registers *at the same time* for two Major courses the tuition fee is \$30.00; for three Major courses, \$40.00. No reduction is made for Minor or Review courses included in a combination. A student registering for English Theological Seminary courses will pay the matriculation fee, \$5.00, and \$3.00 for each course taken. The tuition fee includes payment for the instruction sheets received. Books which cannot be borrowed (cf. § 10) must be purchased by the student. Ordinary textbooks are not loaned.

c) The student is required to inclose postage for the return of the lesson-papers (cf. § 6, m).

d) Money should be sent in the form of postal or express order or New York or Chicago draft, made payable to the University of Chicago. The Chicago clearing-house charges exchange on all other forms of remittance—15 cents on sums up to \$50.00.

8. Method of Registration (recapitulated).—(a) File with the Secretary of the Correspondence-Study Department a formal application for *each* course desired. The required application blank will be furnished upon request (cf. § 4, a).

b) *Forward with the formal application the necessary fees:* (1) \$5.00 for matriculation, if not matriculated in the University (cf. § 6, j); (2) \$8.00 for each Minor course, or \$16.00, \$30.00, or \$40.00, according as one, two, or three Major courses are applied for; (3) an additional fee for certain courses in the sciences.

9. Scholarships.¹

CLASS A.—Three scholarships, each yielding tuition in residence for one quarter (\$40.00), are awarded annually on April 1 to the three students who have begun, completed, and passed the *greatest number* of Major correspondence courses (but at least four) that represent new advanced work, with a grade of B or better for each course, during the preceding twelve months. If two or more persons finish the same number of Majors, the scholarships will be awarded to those whose average grade for the courses in question is highest, and in case of a tie here, in the order in which they finish, beginning with the earliest.

CLASS B.—A scholarship yielding tuition in residence for one quarter (\$40.00) is awarded to a student for *every four* different Major correspondence courses that represent new advanced work, which he has begun since April 1, 1904, completed, and passed with a grade of B or better for each course.

10. Books, etc.—For the convenience of students arrangements have been made with the University of Chicago Press whereby supplies, such as books, maps, etc., which are needed in the different courses can be furnished at prices which will be quoted on application to the Correspondence-Study Department. Sometimes *books of reference* may be borrowed from the University Libraries. Applications for loans should be addressed to the Director of the Libraries of the University of Chicago.

¹ Scholarships are good for any quarter. Two Minors are equivalent to one Major. English Theological Seminary courses are excluded from competition.

IV. THREE PROGRAMS OF HIGH-SCHOOL WORK

The 15 units¹ of high-school work required for admission to the University must include:

3 units of English.

7 units of subjects in Groups 1-6 (see below), to include *at least* 3 units in a single group and *at least* 2 units in another single group.

5 units of any subjects for which credit toward its diploma is given by an approved school.

To fulfil admission requirements most effectively and to leave the maximum freedom of election in college, the following programs are recommended in preparation for college work leading to the different Bachelor degrees:

A.B.	Units	P.H.B.	Units	S.B.	Units
English.....	3	English.....	3	English.....	3
Greek.....	3	One foreign language.....	3 (or 2)	Science.....	3 (or 2)
Latin.....	4	History.....	2 (or 3)	Mathematics.....	2 (or 3)
Mathematics.....	2	Mathematics.....	2	One foreign language.....	2
Electives from Groups		Science.....	2	History.....	2
3, 4, and 6.....	3	Electives from Groups 1-6	3	Electives from Groups 1-6.	3
Total.....	15	Total.....	15	Total.....	15

Group 1.—Greek.

Group 2.—Latin.

Group 3.—Language other than English (Greek, Latin, French, German, Spanish).

Group 4.—History, Civics, Economics.

Group 5.—Mathematics.

Group 6.—Science (Physics, Chemistry, Botany, Zoölogy, General Biology, Physiology, Physiography, Geology, Astronomy).

Any combination of the subjects within each group is permitted but not less than $\frac{1}{2}$ unit of any subject may be offered. Not less than 1 unit of Algebra, Plane Geometry, Physics, Chemistry, or a language may be offered. To meet the 2 or the 3 units-in-a-single-group requirement in Groups 1, 2, or 3, the work offered must all be in *one* language.

Correspondence-Study Courses Which Offer High-School Work²

	Units
Political Economy—"Bookkeeping"	
History—"Outline History of Antiquity to 376 A.D." (A and B)	1
"Outline History of Europe" (A and B)	1
"Outline History of England" (A and B)	1
"Outline History of the United States" (A and B)	1
Greek—"Elementary Greek" (A and B)	1
"Xenophon: <i>Anabasis</i> " (A and B)	1
"Homer: <i>Iliad</i> " (A and B)	1
Latin—"Elementary Latin" (A and B)	1
"Caesar: <i>De Bello Gallico</i> " (A, B, and C)	1
"Cicero: <i>Orationes</i> " (A and B)	1
"Vergil: <i>Aeneid</i> " (A and B)	1
French—"Elementary French" (A and B)	1
"Intermediate French" and "Advanced French"	1
Spanish—"Elementary Spanish" and "Intermediate Spanish"	1
German—"Elementary German" (A and B)	1
"Intermediate German" and "Elementary Prose Composition"	1
"German Idioms and Synonyms" and "Modern German Dramas"	1
English—"Prep. English Composition, -A" and "Prep. English Literature, -A"	1
"Prep. English Composition, -B" and "Prep. English Literature, -B"	1
Mathematics—"Elementary Algebra" (A, B, and C)	1½
"Plane Geometry" (DMJ.)	1
"Solid Geometry"	½
Physics—"Elementary Physics" (A and B)	1
Physiography—"Physical Geography"	½
Drawing—"Freehand Drawing"	½
"Projective Geometry"	½

¹ A unit represents 120 sixty-minute recitation periods and may be made up by two Majors.

² These courses, when completed and passed, will be accepted in lieu of entrance requirements. Many of them will yield college credit if not offered for admission.

V. THE REQUIREMENTS FOR A BACHELOR'S DEGREE

A total of 66 Majors representing four years (15 units, approximately 30 Mjs.) of high-school work and four years (36 Mjs. with 72 "grade points") of college work are required for a Bachelor's degree. Any amount of the high-school work and as much as one-half (18) of the 36 Majors of college work may be done by correspondence.

REQUIRED COLLEGE WORK

1. *Specified Courses*.—"English I" and "English III."
2. *Continuation Courses*.—Three Majors of that subject in which 3 (or 2) units of admission work are offered or of that subject in which one unit of Senior high-school work is offered.
3. *Distribution Courses*.—Enough Majors in each of the following groups to make the total (high-school+college) credit 4 Majors (=2 units).

- I. Philosophy, History, and Social Sciences: Departments I-VI.
- II. Language other than English (i.e., Greek, Latin, French, German, or Spanish). The four Majors must be in one language.
- III. Mathematics: Department XVII.
- IV. Science: Departments XVIII-XXVIII.

4. *Sequences*.—(a) One *principal* sequence of at least 9 coherent and progressive Majors taken in one department or in a group of departments. (b) One *secondary* sequence of at least 6 Majors selected from a different department or group of departments. These sequences must have the approval of the Dean. The work in the Divinity School, the Law School, the Courses in Medicine, or the College of Education may be counted in satisfaction of either sequence.

The degree of A.B. is conferred when the principal sequence consists of 11 Majors of Latin and 9 Majors of Greek (7 if all are of a college grade; cf. p. 30 of this circular) including entrance work. A secondary sequence of 6 Majors is also required.

The degree of Ph.B. is conferred when the principal sequence has been taken in Departments I-XVI.

The degree of S.B. is conferred when the principal sequence has been taken in Departments XVII-XXVIII.

Mathematics may, at the option of the student, be used as the principal sequence for either the Ph.B. or S.B. degree.

No courses counted in satisfaction of entrance requirements, or of the provisions of paragraphs 1 and 3, shall count in making up the principal and secondary sequences, except in the case of the 9- and 11-Major groups in the requirements for the A.B. degree.

Not more than 15 Majors may be taken in college in one department.

VI. COURSES OF INSTRUCTION

I. PHILOSOPHY

1. *Logic*.—The topics considered in this course are those usually included in a survey of logic—such as the concept; the various forms of judgment; inductive and deductive aspects of reasoning; the nature and use of the hypothesis; methods of inductive inquiry and experimental investigation; syllogisms and fallacies, etc. Stress will be laid on the functional aspect of thought processes

and attention will be called to underlying psychological principles. The aim throughout will be to emphasize the vital connection between logic and the practical problems of everyday life and to show that thinking in the strictly logical sense is a constructive process arising out of the needs of the individual and finding its value in enabling him to organize more adequately his experience and to deal more effectively with the subject-matter with which his thinking is concerned. The student may expect, accordingly, to acquire not only a practical knowledge of logic and a certain training in critical habits of thought but also a good basis for subsequent philosophical study. While "Elementary Psychology" is a helpful preliminary, the course may be taken with profit by those who are prepared for thorough study. Mj. ASSISTANT PROFESSOR ASHLEY.

2. Ethics.—An introductory course intended (1) to familiarize the student with the main aspects of ethical history and theory, and through this (2) to reach a method of estimating and controlling conduct. The main divisions of the course are: (a) the general nature of moral conduct; (b) a study of the evolution of the moral problem from primitive life to the present; (c) a comparative study of current ethical theories; (d) application of the foregoing to present problems of social and individual life. The course will be based on the text of Dewey and Tuft's *Ethics*, with collateral study of Mill's *Utilitarianism*, Kant's *Metaphysics of Ethics*, and Spencer's *Data of Ethics*. Mj. ASSISTANT PROFESSOR ASHLEY.

3. Introduction to Philosophy.—The whole field of philosophic problems in their general aspects is covered in order that the student may grasp the mutual relations of the subjects treated in the Department of Philosophy. To this end Plato's *Republic* is made the center of the course, and the various problems which confronted the Greek thinker and his way of dealing with them are contrasted with the way in which modern thinkers interpret similar problems. The origin of ethics and logic as special sciences is considered in connection with the motives leading to the more ultimate problems of the nature of knowledge and external reality. Art, politics, natural science, and education are dealt with from the standpoint of philosophy. A second division of the course analyzes leading types of philosophic attitudes and suggests representative men and writings embodying each attitude. Throughout the course the student works out individual problems according to the "case method"; one object of this study is to make evident the organic connection of theory and practice. Mj. ASSISTANT PROFESSOR TALBERT.

4. Greek and Mediaeval Philosophy.—This course is designed (1) as a survey of the history of thought, considered in its relations to the sciences, to literature, and to social and political conditions, and (2) as an introduction to philosophy through a more careful study of some of the most important systems. Special attention will be given to the study of the more important dialogues of Plato and to Aristotle's *Ethics*. Mj. PROFESSOR TUFTS.

5. Modern Philosophy.—Descartes to Hume, with special study given to Descartes' *Meditations*, Locke's *Essay*, Berkeley's *Principles of Human Knowledge*, and a portion of Hume's *Treatise on Human Nature*. Mj. PROFESSOR TUFTS.

6. Introduction to Kant.—Watson's *Selections* and Mahaffy and Bernard's editions of *The Critique of Pure Reason* and *Prolegomena* will be made the basis of the work. The course will be opened with a brief study of the thought of Leibnitz, for which Dewey's *Leibnitz* will be used. This will be followed by a brief outline of Kant's early development, and a detailed study of the more important portions of *The Critique* as found in Watson's *Selections*. Prerequisite: course 5, or its equivalent. Mj. PROFESSOR TUFTS.

7. Movements of Thought in the Nineteenth Century.—The course continues in less technical manner the history of modern philosophy: romanticism as represented by Rousseau and certain poets; idealism in German philosophy and in Carlyle; utilitarianism; positivism; transcendentalism as seen in Emerson's view of nature and man; the doctrine of evolution, particularly in its relation to human society and the problems of morality as considered by Huxley; the relation of the scientific to the philosophic point of view as defined by Royce.

Those who register for the course should have access to a good library or be prepared to purchase a number of books. Prerequisite: two of the three courses, 4-6. Mj. PROFESSOR TUFTS.

8. Contemporary Philosophy.—Selected works of Eucken, Bergson, and James are studied in detail, the purpose being to illustrate types of philosophic thought. Some of the problems considered are: (1) the relation of philosophy to science; (2) the nature of freedom, space, and time; (3) the definition of truth; (4) the contrasting standpoints of absolutism and pragmatism. This course furnishes the student an opportunity to read philosophers who are now exerting influence and to formulate by comparison and criticism a point of view of his own. Mj. ASSISTANT PROFESSOR TALBERT.

9. Evolution and Modern Thought.—To trace the important consequences of Darwin's theory and method is the object of this course. Starting with an outline of the elements of Darwin's hypothesis, attention is first directed to the history of the English development, followed by a consideration of the contributions of selected European and American writers. Ethics, politics, sociology, logic, aesthetics, and psychology are the fields in which the influences of the doctrine of evolution are considered. The conclusion of the study suggests the way in which the concept of evolution affects general philosophical attitudes as expressed by recent schools of philosophy. Some of the writers included are Spencer, Huxley, Ritchie, Green, Bradley, Kropotkin, Bergson, Wundt, Hrn, Royce, and James. Since the course covers an extensive field it is desirable for the student to select a special problem for more detailed study. To avoid the necessity of a large library, the lesson notes contain fuller discussions than is ordinarily the case. Mj. ASSISTANT PROFESSOR TALBERT.

10. Hindu Philosophy.—The course will trace the growth of philosophic thought in India from the *Rig Veda* through the *Upanishads* to the six great philosophical systems. Especial attention will be paid to the Vedānta, the Sāṃkhya, and the Yoga systems. Mj. ASSISTANT PROFESSOR CLARK.

11. Aesthetics.—In this study art is not considered technically; it is treated as a universal interest, and the principles underlying beauty are derived from a historical and descriptive survey of the several special arts. Recent writings on aesthetics are utilized, but most attention is given to the student's observation and analysis of beautiful objects in order to cultivate both understanding and appreciation. There are four divisions of the treatment: (1) art in primitive society, the development of the dance, music, poetry, and the plastic arts, the relation of utility to early art forms; (2) the psychology of the aesthetic experience, feeling, imagination, and the perception of form, the nature of rhythm; (3) types of artistic creation, architecture, sculpture, music, painting, and the drama, standards of beauty; (4) the relation of art to other interests, practical, moral, and philosophical. Prerequisite: "Elementary Psychology" or an equivalent course. Mj. ASSISTANT PROFESSOR TALBERT.

IA. PSYCHOLOGY

1. Elementary Psychology.—This course takes up the general study of mental processes. It aims to train the student to observe the processes of his own experience and those of others, and to appreciate critically whatever he may read along psychological lines. It is introductory to all work in philosophy and pedagogy and is an important part of equipment for historical and literary interpretation. Mj. ASSISTANT PROFESSOR CARR.

2. Advanced Psychology.—This course presupposes such a familiarity with the subject-matter of psychology as may be gained from course 1 or from intimate acquaintance with Angell's *Psychology*, Ogden's *An Introduction to General Psychology*, Royce's *Outlines of Psychology*, Titchener's *An Outline and Primer of Psychology*, or Wundt's *Outlines of Psychology*. It may then properly be described

as a continuation of the study or an *advance* upon an elementary presentation of the science with a view to further grounding in methods, and a reconsideration of some of its salient problems in the light of recent specialized studies. Mj. DR. MACMILLAN.

3. Psychology of Thinking (Introductory Course).—The purpose of this course will be to investigate the character and function of thinking. Thinking will not be regarded in accordance with popular usage as a common term for all sorts of imagery but will be treated as a reflective process, which arises because of difficulties in our experience and has its object and justification in their solution. The psychology of thinking will include, therefore, (1) a preliminary study of conduct, or behavior, with a view to determining the conditions which give rise to problems and reflective processes, and (2) a more detailed account of the way in which thinking proceeds in our attempt to solve these problems. In connection with the general investigation various applications to education, science, and practical affairs will be pointed out—partly for the purpose of illustration and partly for the value which the student who is interested in these fields will derive from the point of view which the course will tend to develop. No special preparation is required as a prerequisite, but any work which the student may have had in biology or psychology should be of considerable assistance. Mj. ASSISTANT PROFESSOR ASHLEY.

4. Social Psychology.—Mind is treated from the standpoint of its organizing, communicating function in social groups. The basis of the theory of social consciousness is derived from recent studies in gesture, language, and instinct. Questions proper to this science are: (1) the genesis and development of consciousness in the family, gang, school, club, voluntary association, and nation; (2) the social character of instinct, feeling, perception, and thinking; (3) the interpretation of the crowd, fashion, and custom; (4) criticism of the prevalent doctrine of imitation and suggestion; (5) political parties, the newspaper, and the public will; (6) democracy and leadership. German, French, and English writers are utilized, but most importance is attached to the views of American social psychologists and application to present problems in education and politics. Mj. ASSISTANT PROFESSOR TALBERT.

5. Social Groups.—A course for students who wish to do original, intensive work in social psychology. It considers (1) the mental and environmental agencies which serve to maintain institutions and classes; (2) the rôle of instinct, sentiment, habit, suggestion, imitation, will, etc., applied to sects, political parties, cultural institutions, corporations, labor organizations, and other groupings. Students are directed to literature on the problems which they select. This course aims to be of service to the growing number of persons who realize the necessity of understanding the psychic processes which underlie modern social organizations. Prerequisite: "Social Psychology" or an equivalent course. Mj. ASSISTANT PROFESSOR TALBERT.

6. Psychology of Religion.—Emphasis is laid on the origins of religion in primitive society, the function of religion from psychological and sociological points of view, and its relation to science and democracy. Part I treats the salient aspects of primitive religion—as custom, taboo, magic, ceremonial, myth, spirits, sacrifice, and prayer. Part II discusses the evolution of religion in the individual from childhood to maturity; the psychology of conversion and religious education are important topics. In Part III the wider aspects of religion are studied: The value and limitations of sects, the nature of religious genius, non-religious persons and the difference between the religious attitude of primitive man and the attitude of the modern individual. Throughout the course the purpose is to consider religion as a normal phenomenon related to human values and institutions and having an identical function from past to present, notwithstanding vast changes in its forms and doctrines. Mj. ASSISTANT PROFESSORS AMES AND TALBERT.

IB. EDUCATION

THE HISTORY OF EDUCATION

1. **History of Education.**—This course covers in outline the history of education from savagery to the present time. The subject is presented in such a way as to enable the student (1) to gain a conception of the relations of the ideals of an age to general industrial and social conditions; (2) to discover the more important steps in the development of educational theory and practice; and (3) to get a background for the evaluation of the various factors in the problems which command attention today. Emphasis is placed upon great movements rather than upon individuals. Eminent philosophers and educators are considered, but they are treated with reference to the movement to which they have contributed. Mj. DR. DOPP.

2. **A Comparative Study of the School Systems of Germany, England, and the United States.**—The course will trace the historical development of the existing systems of elementary and secondary education, with especial emphasis upon the characteristic ideals that have differentiated them, and upon present tendencies. Mj. PROFESSOR BUTLER.

ADMINISTRATIVE AND SOCIAL ASPECTS OF EDUCATION

3. **High-School Administration.**¹—This course is planned for high-school principals, teachers interested in the administrative aspects of the high school, and superintendents. It deals with the practical problems of secondary-school administration, including the relation of the high school to the elementary school and to the college; the use of grades and statistical studies as tests of efficiency; the making of curricula and of programs; the reorganization of the material of secondary education; the junior high school; faculty organization; classroom management; discipline; social organization; moral instruction and training. The material of the course is definitely related to actual school conditions, particularly to those in the University High School. Mj. MR. JOHNSON.

4. **Problems in Secondary Education.**—The course will discuss education as training for social efficiency: the intellectual, social, physical, and moral elements in education; adolescence; the high-school curriculum; handicrafts in secondary education: electives; the extension of the high-school course by the addition of two years; "the many-sided interest"; on sending boys and girls to college. The student will be expected to make a study of schools in his neighborhood and to make reports upon these schools, in relation to the general topics studied. Mj. PROFESSOR BUTLER.

5. **The Evolution of Industries and Their Place in Education.**—This course is designed to meet the needs of those supervisors, principals, and teachers who are attempting to incorporate industrial education in the course of study. It aims (1) to afford an insight into the principles of selection by means of which industries and occupations of various sorts may be tested; (2) to present the most fundamental features of industrial evolution; (3) to make a more particular study of several typical industries; (4) to make a practical application of these studies to the elementary and high schools; and (5) to help the teacher gain information regarding the literature of the subject and the nature of the materials and apparatus required. Mj. DR. DOPP.

6. **Industrial Education in Public Schools.**—The course begins with an explanation of the meaning of the present widespread movement for industrial education, and a discussion of its relation to other phases of vocational training. This is followed by a historical sketch of industrial education in the United States since 1876, which serves to show the relation between manual training and industrial education. A complete analysis of the present demand for industrial

¹ Registrations accepted after January 1, 1916.

education is made, and consideration is given to the attitude of the manufacturer, of organized labor, of the educator, and of the social worker. Educational ideals are discussed briefly and a statement is made of the necessary revision of these ideals involved in the evolution of the school system to meet the demand for industrial education. A comprehensive plan of organization for school systems of industrial communities is discussed in detail and a study is made of all the existing types of industrial schools or classes. These include elementary or pre-vocational, intermediate, secondary, trade, part-time, continuation, and evening schools. Reference is also made to some private experiments in trade training. Among the topics discussed in their relation to industrial education are the following: (1) industrial history; (2) labor and capital; (3) elimination of waste; (4) specialization and concentration; (5) basis of differentiation between elementary and secondary education; (6) vocational guidance; (7) state legislation. Mj. ASSOCIATE PROFESSOR LEAVITT.

7. Primitive Arts as Educational Means.—This course treats of such typical arts as the dance and pantomime, the festival, music, poetry, the graphic and the plastic arts with reference to (1) their genesis, growth, and differentiation; (2) their practical, intellectual, social, and aesthetic values; and (3) their significance in elementary education. Mj. DR. DOPP.

EDUCATIONAL PSYCHOLOGY AND EXPERIMENTAL EDUCATION

8. Educational Psychology.—A study of the fundamental psychological processes, with especial emphasis upon those which have direct relation to educational problems. The application of mental laws both to general educational procedure and to the conduct of the special disciplines is made throughout. For example, the general problem of interest, and the particular school subjects, reading, writing, and number, are treated from the psychological point of view. Attention is given also to the mental development of the child. Mj. ASSISTANT PROFESSORS FREEMAN AND ASHLEY.

9. An Introduction to Child-Study.—Child-study in the widest sense aims to give scientific information concerning the normal life of children. Necessarily it emphasizes natural growth and normal functioning in every aspect, but it must touch upon abnormal growth and the conditions and situations that influence favorable and unfavorable physical and mental constitution and action. This course is designed principally to acquaint students with such phases of the physical and mental life of children of school age as the hygienist and teacher should be familiar with. It reviews the main problems that have been or are being investigated, as well as the current methods of correcting, standardizing, and presenting data concerning child growth and education, and suggests lines of inquiry that are of vital interest to the well-informed worker with children. Mj. DR. MACMILLAN.

10. Classifications and Care of Children.—This course will deal with a special problem of child-study, namely, the variations that differentiate children. Starting with the characteristics common to all children, it will emphasize the varieties or departures from the common or typical which require special care in the home and special training and opportunities in home and school. While primarily designed for students who aim to specialize in the investigation, or the teaching, or the care and treatment of special children, much of the course can be made adaptable to meet the interests and needs of regular teachers and mothers. It presupposes an acquaintance with the course entitled "An Introduction to Child-Study" or its equivalent. Mj. DR. MACMILLAN.

EDUCATIONAL METHODS AND PRINCIPLES

11. Introduction to Education.—This course is designed to introduce students to the study of Education from a historical and scientific point of view. The readings are intended to arouse in the minds of the students some inquiries with regard to the possibilities of organizing the course of study in such a way that it

shall be based upon psychological and sociological principles rather than mere tradition. Mj. ASSISTANT PROFESSOR FREEMAN.

12. An Introduction to the Theory and Practice of the Kindergarten.—The aim of the course is: (1) to make a careful study of the best material, songs, games, and stories for children of kindergarten age; (2) to compare those we have today with those selected by Froebel, thus illustrating his anticipation of many phases of the child-study movement; (3) to find the right place and relation of his ideals to the later principles and methods of genetic psychology. Mj. MRS. PUTNAM.

13. Curriculum for the Primary Grades.—This course is planned for the practical help of primary teachers, kindergartners, and supervisors. It will consider (1) the intrinsic relations between the kindergarten and primary grades; (2) various factors in the making of a curriculum-for the first three grades and the organization of subject-matter in these grades; (3) the relative proportion and the relation of children's independent work at their seats to the recitation period; (4) the relation of reading, writing, number, and constructive work to the rest of the program; (5) the simplifying and unifying of the day's program. Since the teaching of reading is rather the unique problem of the primary grades especial attention will be given to a discussion of the principles involved, legitimate tests of what constitutes good reading, and prevalent methods considered in the light of these premises. Each lesson will give an opportunity for help in meeting individual problems in the subject under consideration. The aim is to enable teachers to organize work in the primary grades effectively and to carry out work already organized more intelligently and successfully. Mj. MISS WYGANT.

14. Principles of Method for Elementary-School Teachers.—This course which is designed for supervisors as well as for elementary-school teachers treats of the principles underlying the learning process and the selection and organization of subject-matter. Typical modes of activity, such as dramatic play, modeling in sand and clay, drawing, painting, excursions, field-trips, experimental work, illustrative and real constructive work, and language, are considered as means of providing first-hand experience which the child needs in order to understand the subject-matter presented in books and other symbols. The principles considered are applied to the teaching of history and nature-study. Mj. DR. DOPP.

15. Principles of Method for High-School Teachers.—This course discusses the general principles of method which are fundamental in the teaching of all high-school subjects, and indicates by concrete illustrations from these subjects how the principles apply. The following topics are taken up: (1) broadening conceptions of the purpose of high-school education; (2) the machinery of school-keeping; (3) factors determining the selection and arrangement of subject-matter; (4) processes of learning—motor learning, learning involving simple associations, learning involving analysis and reasoning, the development of appreciation, etc.; (5) incentives, motives, stimuli in learning; (6) typical methods of conducting instruction; (7) testing the results of instruction; (8) planning instruction. Mj. DR. DOPP.

16. The Training of Children (for Mothers).—The special aim of the course will be to bring to the mother or teacher such practical knowledge of the fundamental laws of the growth and development of children as will be applicable in the home, beginning in the nursery and following through the periods of childhood and adolescence. It will treat of the problems of play, interest, habit, etc., and will aim to show how Froebel, the originator of the kindergarten, would make the child the chief agent in his own development, and at the same time offer a basis for an intelligent and willing obedience to law. The standards of, and reasons for, present educational methods will be discussed, that parents may judge discriminatingly of the school work which is being done by and for their children, and determine whether it is really making for the best all-sided growth

of the child. To this will be added a brief discussion of the value of the Montessori method of education, and its place in relation to the kindergarten. Mj. MRS. PUTNAM.

NOTE.—Related courses will be found under Departmental Nos. IA, IV, VI, XII, XIV, XV, XVI, XVII, XXI, XXI A, XXII, XXIV, XXVII, XLVI, CXXII, CLI, CLV.

II. POLITICAL ECONOMY

1. Principles of Political Economy.—

A. This course endeavors to point out to the student the main characteristics of our present industrial system. This is done by an examination of its development and by an analysis of its features. A careful study is made of the economic laws governing the production, consumption, and exchange of wealth. Mj.

B. In this course the problems of distribution and several of the concrete problems of the day are discussed. Among the subjects treated are the following: rent; wages; interest; profits; money; banking; international trade; the tariff; trade-unionism; socialism; taxation and public finance. Prerequisite: course 1 A. Mj.

PROFESSOR MARSHALL AND ASSISTANT.

ACCOUNTING

2. Bookkeeping.—This course gives a full treatment of the underlying principles of bookkeeping. Its purpose is to acquaint the student with the theory and nature of accounts. The subjects treated will be (1) forms of accounts, (2) books used in accounting, (3) mode of handling commercial papers, (4) the recording of transactions, and (5) double-entry methods in retail business. In the first half of the course a proprietary business will be conducted and properly closed. Following this, a retail partnership is opened, introducing a new line of trade, and distributing profits proportionately among partners. All principles presented will be practically illustrated by a series of transactions that the student will be required to enter in a set of forms which accompany the textbook required in the course. Prerequisite: a working knowledge of arithmetic. [This course commands admission credit only.] Mj. MR. KEEN.

3. Wholesale Partnership Accounting.—This course follows course 2 and is designed for students who have completed that course, or who are familiar with the principles of bookkeeping therein enunciated. The articles of co-partnership are introduced and explained: the net profits or losses are carried to the partners' accounts, and the books formally closed. New accounts pertaining to a wholesale trade are taken up, in addition to those previously studied. Special attention is given to the method of handling invoices and sales by the loose-leaf system. Also the sales ledger, the bills-receivable, and the bills-payable books are introduced. A system of keeping departmental costs will be fully carried out, showing a comparison of the costs and sales in the several departments in the business. As in course 2, the student will be required to do the practical work in recording transactions, and handling the commercial papers pertaining thereto. Mj. MR. KEEN.

4. Corporation Accounting.—This course provides a tabulated study of the laws of all the states with reference to the formation and conduct of corporations. Then follows: the opening of a set of corporate books under various conditions; the conversion of a partnership into a corporation; the treatment of good-will as a resource; the manner of issuing, transferring, and canceling stock; the keeping of all special account books used in corporate accounting; the making of balance sheets and the peculiar items composing them; the sources of income, the declaring of dividends, reserve fund, surplus, depreciation, and the closing of the books for a fiscal period. The student is required to record the operations of a manufacturing corporation for two financial periods, thus illustrating the foregoing principles, and also to conduct the payment of all obligations by the voucher system. Incidental to record sheets, and in connection

with special references given, the discussion of problems related to corporate accounting is called for. Prerequisite: course 2 or its equivalent. Mj. Mr. KEEN.

5. Cost Accounting.—This course is designed to give a detailed analysis of that type of accountancy which deals particularly with the various expenses incident to preparing products for the market. All underlying principles are duly outlined, and their interrelation and application are illustrated. Both department-method and cost-method are analyzed, and their advantages are shown. A synthetic set of problems is used to introduce the working out of costs, and to reflect the principles, theoretically discussed, as they are actually involved in the process of manufacturing. Following the introductory examples is given the actual work of a large factory during two months of its operation. All transactions, from organization to closing of accounts, are recorded in the most systematic and thorough manner. In conjunction with this laboratory work, papers on office and shop investigation are called for. Prerequisite: course 4 or its equivalent. Mj. Mr. KEEN.

6. Bank Accounting.—This course will begin with a study of the laws governing the banking systems in the United States. The organization of a banking business will be fully presented. All the departments of a bank will receive due notice. The various books and accounts used in modern banking houses will be taken as models for record work. Full directions accompany the lessons for installing a system of bank accounting, followed by actual transactions covering a period of three months, when the books will be closed, a financial statement rendered, and a thorough review given upon the principles covered in the entire set of lessons. Prerequisite: course 2 or its equivalent. Mj. Mr. KEEN.

III. POLITICAL SCIENCE

1. Civil Government.—This course is devoted to an analysis of the organization and activities of the American government, local, state, and national. Some of the topics treated are: (1) the historical foundations of American institutions; (2) the evolution of federal and state constitutions; (3) the development of political parties and party machinery; (4) nominations and elections; (5) the organization, powers, and duties of the executive, legislative, and judicial departments of the federal, state, and local governments; (6) city government; (7) territorial government. Emphasis is placed upon the actual work governments perform. This course covers the ground of course 1 in residence. Mj. Mr. EVANS.

2. Elements of Business Law.—This course deals with the following branches of private law: (1) contracts; (2) sales; (3) bills and notes; (4) agency; (5) partnership; (6) private corporations; (7) bailments; (8) guaranty and suretyship. These are the subjects most closely connected with the ordinary transactions of business. The general doctrines and underlying principles of these branches are discussed and analyzed and their application illustrated by actual cases. To indicate the scope of the work the following topics will receive attention in dealing with (6) *private corporations*: (a) formation of a corporation; (b) capitalization; (c) common and preferred stock; (d) bonds; (e) ownership and transfer of shares; (f) liability of shareholders; (g) management of corporations; (h) corporate meetings; (i) the powers and duties of officers; (j) the legal powers of the corporation; (k) dividends; (l) dissolution and liquidation of corporations. The purpose of this course is twofold; (1) to give to the man of business a knowledge of the general character and extent of his legal rights and duties; (2) to give to the general student an introduction to the study of the nature and doctrines of American private law, so far as they are illustrated in the subjects treated. Mj. ASSISTANT PROFESSOR HALL.

3. Elements of International Law.—A study of the rules observed by civilized nations in their relations with each other. The course includes a general consideration of the history and development of international law and a more

detailed study of the subject in its three fundamental divisions of peace, war, and neutrality. Some of the topics treated are the nature, sources, and divisions of international law; the intervention of one nation in the affairs of another; the rights and duties of nations in connection with property; the extent and nature of a nation's jurisdiction over its territory, subjects, and public and private vessels; the rights and duties of diplomacy; modes of warfare; recognition of belligerency; effect of war on treaties; rules of war on land and sea; rights and duties of neutral states; blockade; contraband of war; etc. The course is not strictly technical in character, and should prove of value to those desiring a better understanding of current international affairs, as well as to lawyers and teachers of history and political science. The work will be based on a standard text, supplemented by a book of cases on international law. Mj. ASSISTANT PROFESSOR HALL.

4. Constitutional Law in the United States.—A study of the principles of constitutional law as they have been developed in relation to the federal constitution and to some of the more important provisions of the state constitutions of the United States. The general topics discussed are: (1) the nature of American constitutional law; (2) making and changing of the American constitution; (3) separation of powers; (4) function of judiciary in enforcing constitutions; (5) political rights; (6) personal and religious liberty; (7) protection to persons accused of crime; (8) due process of law and equal protection of the law in regard to procedure, the police power, power of taxation, and the right of eminent domain; (9) laws impairing the obligations of contracts; (10) powers of the federal government and their exercise; (11) regulation of commerce; (12) inter-governmental relations; and (13) jurisdiction of the federal courts. This course is based upon the study of actual cases, which, wherever practicable, have been so selected and arranged as to show not only the law as expounded by the courts today, but also its historical development. This is supplemented with the text which gives an exposition of the general rules derived inductively from a study of the cases. As far as possible technical terms are avoided so that the course will be of equal value to the general student, the political scientist, and the lawyer. Mj. ASSISTANT PROFESSOR HALL.

NOTE.—Related courses will be found under Departmental Nos. II, IV, and VI.

IV. HISTORY

ACADEMY

The outline courses 1-4 are designed to meet college-entrance requirements in ancient, European, English, and American history, respectively. For A and B together, of each course, one unit of admission credit is allowed. The suggestions for study are made very definite as helps to beginning students and as an outline for high-school teachers.

1. Outline History of Antiquity to 376 A.D.—

A. *Oriental and Greek History to 146 B.C.*—A general narrative and descriptive history of Greece to the Roman conquest, with a brief introductory sketch of the oriental nations that especially influenced Greek civilization. Mj.

B. *Roman History to 376 A.D.*—A general view of Roman history from the early Republic to the establishment of the later Empire in the fourth century, paying special attention to the government and institutions of the latter as a basis for an intelligent study of the mediaeval period. Mj.

ASSISTANT PROFESSOR KNOX.

2. Outline History of Europe (376-1900).—

A. *The Decline of the Roman Empire to the Renaissance (376-1500).*—This course includes a study of the essentials in mediaeval European history from the fall of the Western Roman Empire to the Reformation. Mj.

B. *The Reformation to the Present (1500-1900).*—The course aims to give the student a general understanding of the principal territorial changes, national policies, economic conditions, and intellectual interests of Europe during the last 400 years. Mj.

ASSISTANT PROFESSOR KNOX.

3. Outline History of England.—

A. *English History to 1603.*—An introductory study of the origin and formation of the English nation to the death of Elizabeth. Besides tracing the outlines of political and constitutional development, the course deals briefly with social and institutional history and with the growth of civilization and culture. Mj.

B. *English History from 1604 to the Present.*—Politically and constitutionally, the course treats of the rise of Parliament in the seventeenth century, the growth of cabinet government in the eighteenth century, and the growth of popular control over Parliament in the nineteenth century. The colonial expansion of England, the growth of the British Empire, and the main facts and results of the industrial revolution are studied. Mj.

DR. FOX.

4. Outline History of the United States.—

A. *American History to the Formation of the Constitution (1492-1788).*—The course traces the history of the English colonies on the Atlantic coast from the planting to their union under a written constitution. Political and social institutions in the colonies and such economic conditions as affected their development are studied with some care; European rivalries and colonial wars are made subordinate to their results. Other main topics are: the relations of the colonies to the mother country and to each other; their defense of "the rights of Englishmen" in the face of British colonial policy after 1760; the Revolution and independence; the difficulties of forming a permanent political union; the Articles of Confederation and their failure; the Constitution. Mj.

B. *The Nation under the Constitution (1789-1914).*—Up to the Civil War, the course treats of: the organization of the new government; foreign and domestic problems; the services of the Federalists and their overthrow; Jeffersonian policies; the War of 1812 and results; political and economic reorganization; westward extension and the rise of national democracy under Jackson; the Monroe Doctrine and territorial expansion; the slavery controversy, and the triumph of nationalism over sectionalism in 1865. Following the Civil War, the chief topics are: political and economic readjustments to 1877; industrial development; economic problems and legislative regulation; civil service and political reform; the growth of socialistic legislation; the Spanish War and "imperialism"; the Wilson policies. Mj.

DR. FOX.

COLLEGE

5. History of Antiquity to the Fall of the Persian Empire.—In this course the history of the nations of the ancient East—Babylonia, Egypt, Assyria, Syria, Israel, etc.—is studied in its development from the beginnings of organized political life to the fall of the world-empire of Persia. A large amount of reading is expected of students. Mj. ASSISTANT PROFESSOR KNOX.

6. History of Greece to the Death of Alexander.—This course presupposes a general knowledge of the external facts of Greek history (course 1A), and undertakes to conduct the student into an investigation of the underlying principles and forces which condition the outward events. It is intended for those who wish to go thoroughly into the subject, and are willing to give their time and thought to it. Mj. ASSISTANT PROFESSOR KNOX.

7. History of Rome to the Antonines.—A general view of the development of Rome to the close of the first century A.D. with special emphasis on imperial expansion and provincial government. Mj. ASSISTANT PROFESSOR KNOX.

8. European History: The Mediaeval Period (376-1300).—The invasion and settlement of the barbarians, the revival of the empire, the growth of the papacy, and the struggle between those two, Mohammed and his religion, the Crusades, the rise of nationalities and mediaeval institutions will be studied. The needs of the teacher as well as those of the general student are met in this course. It corresponds to History 1 in residence. Mj. ASSISTANT PROFESSOR KNOX.

9. European History: The Later Mediaeval and Early Modern Period (1300-1715).—The course opens with a study of Europe during the period of the Renaissance and extends to the reconstruction of Europe at Utrecht. Besides the Renaissance, the chief topics studied are: the Reformation and its results; the growth of national states; the "wars of religion" to 1648; the ascendancy of France; the English constitutional struggle of the seventeenth century; and the colonial expansion of Europe following the period of exploration and discovery. The course corresponds to History 2 in residence. Mj. DR. FOX.

10. European History: The Later Modern Period (1715-1900).—In the eighteenth century, the principal topics studied are: the rise of Prussia and Russia; the colonial supremacy of England; the ancient régime in Europe; the era of the French Revolution and Napoleon. Following this the course will treat: the political reconstruction of Europe in 1815, political and constitutional reform, the unification of Italy, and the formation of the German Empire, the Balkan problem, the industrial revolution, European imperialism, and the growth of socialism and socialistic legislation. Stress will be laid on the economic factors of modern history. The course furnishes an introduction to the study of current history. It corresponds to History 3 in residence. Mj. DR. FOX.

11. Europe during the Renaissance (1250-1500).—A survey study of the period of the Renaissance in Europe. In addition to a general understanding of important events, emphasis is laid upon exploration and discovery; the growth of nationality; the expansion of the Ottoman empire; commercial and industrial conditions; and the prominent intellectual and religious movements. Prerequisite: course 8 or its equivalent. Mj. DR. FOX.

12. Europe during the Reformation (1517-1648).—This course is a study of the causes, events, and results of the Reformation in Europe. Much attention will be given to the political, social, and economic phases of the movement, the inseparable religious questions being discussed only so far as is necessary to an understanding of the period. Prerequisite: course 9 or its equivalent. Mj. DR. FOX.

13. The French Revolution and the Era of Napoleon.—The ground will be cleared for the history of the period by a careful study of the institutions of the Old Régime, in which the remoter causes of the Revolution will be discovered. A consideration of the more immediate causes and the attempts at reform will introduce the Estates General. The Revolution ran through three periods which answer to the National Assembly, the Legislative Assembly, and the Convention, to the extreme of a Red Democracy. Three more periods, corresponding to the Directory, the Consulate, and the Empire, see France return to a military absolutism under Napoleon. The greatest emphasis will be laid upon the institutional changes induced by the French Revolution, and attempt will be made to show the constructive work of the Revolution and of Napoleon. Its importance as one of the greatest generic events of the world's history will give the course a significance wider than France alone. It is desirable that the student be familiar with the outlines of modern European history. Prerequisite: course 9 or its equivalent. Mj. PROFESSOR THOMPSON AND DR. FOX.

14. The Church and the Roman Empire (from the beginning to Justinian, 565).—In this course, and the one following it, an effort is made to study the development of the church both as being affected by its environment and as affecting the society in which it developed. The main emphasis, however, is placed upon the latter aspect of the subject, namely, the social significance of the church. The whole history of the Roman Empire is looked at as a phase in the

movement of civilization from the east, westward. As an especially important element in this movement, the religious practices of the orientals are sketched from the evolutionary point of view. On this background is traced the beginning of the Christian communities. In outlining their continuous development, the attempt is made to show how they, in conjunction with other influences, notably those of the oriental religions, bring about certain transformations in Roman society. Attention is accordingly given to their relation (1) to the evolution of religion and morality; (2) to the subordination of philosophy to religion; (3) to the substitution of the ascetic for the non-Christian ideal; (4) to the development of new ideals and subjects in education and to the transformation in the spirit and uses of art and architecture; (5) to the development of new social centers; (6) to the creation of a system for the care of the poor and the sick; (7) to the creation of a new means of shaping public opinion and exerting political influence. **MJ. ASSISTANT PROFESSOR WALKER.**

15. The Church and the Barbarians (from Gregory the Great to the Twelfth Century, 590-1100).—There is continued in this course the point of view assumed in the preceding one, namely, the relation of the church to the evolution of society. In accordance with this point of view, attention is directed to the following subjects: (1) The clergy as leaders of the old society over against the Invaders; (2) the church and its reactions on the new religious conceptions and practices introduced by the Invaders; (3) the church as the moral trainer of society through the example principally of the monks, through preaching, through the confessional, through chivalry, and through marriage; (4) Monasticism as an economic and intellectual agent; (5) the church as the transmitter of Roman notions of administration and law; (6) as a mold of public opinion and a political force. The contemporaneous barbarization and feudalization of the church is also emphasized. **MJ. ASSISTANT PROFESSOR WALKER.**

16. History of England to the Accession of the Tudors.—Early Britain, its Romanization, the settlements of the invading German tribes, the struggle for supremacy, the union of England under Wessex, the Norman Conquest, the struggle of the people for constitutional rights, civil and foreign wars, and the beginning of the Renaissance in England will be studied. **MJ. DR. FOX.**

17. England from Henry VII to Edward VII (1485-1900).—While a general view of political policy, foreign and domestic, is the chief aim of the course, special attention is given to such important topics as the growth of Parliament, of democracy and imperialism, and considerable stress is laid on religious, economic, and social movements. **MJ. DR. FOX.**

NOTE.—The following courses presuppose course 4 (A and B) and afford opportunity to study American history more exhaustively. The student is advised to take the courses in sequence. In this way he will greatly economize the expenditure for books, since successive courses require the same textbooks to a large extent. Graduate credit may be obtained in courses 18 and 19, by properly prepared students who have access to sources and original documents and who do additional advanced work under the direction of the instructor. In such cases the tuition fee for each Minor will be \$16.00 instead of \$8.00.

18. Colonial Period (1607-1783).—

A. Colonization and Colonial Institutions (1607-1763).—This course deals briefly with the period of discovery but more in detail with the origin and development of political, social, and economic institutions. The chief events of colonial history are considered with especial reference to the relations between the English colonies and the mother-country, and the economic and political causes leading up to the Revolution. The course concludes with a survey of the struggle for the control of North America by the French and English, and the peace of 1763. **M.**

B. The American Revolution (1763-1783).—The following topics show, substantially, the content of the course: the territorial, political, and economic condition of the English colonies in 1763; the new policy of the English government; the development of colonial opposition; the constitutional and philosophical arguments on both sides; the beginning of hostilities; the Declaration

of Independence; the progress of the war; Congress as a governing body; the Loyalists; French and Spanish intervention; Washington's triumph; the preliminaries and terms of peace of 1783. M.

ASSISTANT PROFESSOR JERNEGAN.

19. The Formation and Growth of the Nation (1783-1829).—

A. Confederation and the Constitution (1783-1789).—The following topics are treated: the results of the Revolutionary War; the government under the Articles of Confederation; the organization of the western territory; interstate controversies; problems of diplomacy and foreign trade; violations of the treaty of peace; paper money; the Shays Rebellion; the Constitutional Convention; analysis of the Constitution; the process of ratification. M.

B. Foreign Politics and National Expansion (1789-1829).—Beginning with the organization of the national government, the course deals with the policy of the Federalist party in foreign and domestic politics and the rise of the Democratic opposition. The broad and strict constructions of the Constitution are carefully studied. Further topics are the fall of the Federalists; Jefferson's policy; annexation of Louisiana; experiments in neutrality; and the causes, progress, and results of the War of 1812. The course concludes with a survey of the political and economic reorganization after the war, including western expansion, the Missouri Compromise, the Monroe Doctrine, and the triumph of the Jacksonian democracy. M.

ASSISTANT PROFESSOR JERNEGAN.

20. Sectional Conflict and National Development (1829-1914).—

A. Democracy, Expansion, and Conflict (1829-1865).—The course is intended for maturer students who wish to learn "why things happened as they did as well as how they happened." Thus attention is given to the causes of the democratic revolution under Jackson, and the growth of political machinery and the "spoils system," by which party government was made effective; the economic and political growth of the lower South, the development of the industrial North, and their rivalry for the political alliance of the growing West. The fundamental cause of sectionalism is found in economic divergence; its growth is traced in the sectional treatment of practically all national questions before 1860—the tariff and nullification, banks, the subtreasury system, land policy, internal improvements, the admission of new states, and territorial expansion. Careful study is made of: slavery as a system and its economic, social, and political effects; abolition and anti-slavery; aggressive expansion under southern leadership; the vain efforts of the South to extend its system to new territory and its consequent loss of political power; the sectionalization of the older political parties after 1850; the rise of the new Republican party and its triumph in 1860; secession and the triumph of nationalism. The great statesmen and other leaders of the period receive due attention. Other topics are: the growth of industry, agriculture, and commerce under the spur of mechanical invention and improved transportation; urban development; social changes; immigration; religious and cultural history. M.

B. National Consolidation and Expansion (1865-1914).—The course treats of the problems of reconstruction, the blundering policy pursued by Congress, and the recovery of the South; the conflict between Congress and the executive, legislative scandals and executive demoralization, and political, constitutional, and economic readjustments made necessary by the war; the rapid growth of the North, the settlement of the West under the influence of transcontinental railways and liberal land laws, and the economic rise of the New South. The cardinal facts of the period are found to be the economic development of a free, united people under a policy of *laissez faire*, the rise of enormous corporations and trusts in industry and transportation and their efforts to control government in the interests of "big business," the efforts of such material changes upon the structure of society, and the efforts of popular government to control this portentous economic development by law. In this light, tariff reform, coinage of silver, currency and banking, conservation, railway rate regulation, government

supervision of corporations, the labor movement, and labor and socialistic legislation are studied. On the political side, third-party movements, civil service and ballot reform, the extension of federal powers and activities, and the development of such democratic weapons as direct primaries, direct election of senators, direct legislation, and the recall are considered. Attention is given to commercial expansion, "imperialism," foreign relations and the emergence of the United States as a world-power, Latin American relations, and the Panama Canal. The first two years of the Wilson administration are included in the study. M.

DR. FOX.

21. Economic History of the United States.—A general survey of the subject aiming to acquaint the student with the economic problems and forces as they developed and shaped the course of American history—a phase frequently neglected, but of fundamental importance for a proper understanding of the history of the American people. Among the main topics treated are: (1) colonial agriculture, industry, and commerce; (2) economic aspects of the Revolution; (3) the opening up and settlement of the West; (4) the public lands; (5) internal improvements; (6) railways and waterways; (7) slavery; (8) immigration; (9) the merchant marine; (10) foreign commerce; (11) the development of agriculture; (12) the rise of manufactures; (13) the growth of trusts and trade unions. Mj.

DR. FOX.

History of India.—(Cf. description under Sanskrit 4.)

SCHOOL OF EDUCATION

22. History for Primary Grades.—This course is designed for teachers in primary grades and also for supervisors and principals. It aims (1) to show the principles upon which subject-matter should be selected for the children of the lower grades; (2) to assist the teacher in outlining a course of study; (3) to give practical help in methods of presenting subjects to children; (4) to show the relation which a course of study in history should bear to the social occupations of the school. The course treats of the following topics: primitive industrial and social life; local history; civics; constructive work; children's literature. Students who are teaching in primary grades may modify their work to make it of practical assistance in their own schools. The course covers the ground of course 1 in the Department of History in the School of Education. Mj. ASSOCIATE PROFESSOR RICE.

23. Teachers' Course in American History.—This course is intended for teachers in the upper grades of the elementary schools. It gives a brief study of colonial history, and a fuller treatment of the period of westward expansion. The effects of geographical environment upon industrial and social life are emphasized. The course corresponds to course 11 in the Department of History in the School of Education. Mj. ASSOCIATE PROFESSOR RICE.

VI. SOCIOLOGY AND ANTHROPOLOGY

SOCIOLOGY

1. Introduction to Sociology.—A study of the phenomena of social life; the basis of society in nature; the social person; social institutions; and social psychology, order, and progress. The course is designed to give an introduction to theoretical and practical sociology, and to systematize the reading, observation, and thinking of advanced students. Mj. ASSISTANT PROFESSOR MACLEAN.

2. Introduction to the Study of Society.—This course is designed to afford a synthetic view of social phenomena, and to furnish the student with a scientific method for the study and correct understanding of ordinary human association. Considerable attention will be paid to local studies as a means of amplifying the text. The aim is to have the course serve as an introduction to the special social sciences. Mj. ASSISTANT PROFESSOR MACLEAN.

3. Elements of Industrial History.—The aim of this course is to acquaint the student with the salient facts of American industrial history and to furnish a foundation for those who wish to do further work in economics or sociology. Selected industries will be studied in detail and their evolution discussed. A course for practical people as well as for students. Mj. ASSISTANT PROFESSOR MACLEAN.

4. Social Debtor Classes.—A course for practical social workers and supporters of social amelioration. The particular work in which the student is interested is taken as a starting-point and an attempt is made to discuss various forms of preventive and constructive social work from the standpoint of the relief visitor, city missionary, alienist, contributor, or lay student, as the case may be. Texts are chosen with a view to the reader's special needs, and illustrations are taken from his own state or community. The chief aim of the course is to give occasion for the reader to analyze, classify, and describe his own environment, and his own experience and observation. Prerequisite: course 1 or its equivalent. Mj. ASSISTANT PROFESSOR MACLEAN.

5. Modern Immigration.—This course includes a study of the forces at work in movements of population from the old world to the new; history and statistical studies of immigration into the United States; nationalities involved; their distribution and industrial adjustment; problems presented; social efforts looking toward better assimilation; the status of the immigrant. A course for students, social workers, and all who are interested in this important social problem. Mj. ASSISTANT PROFESSOR MACLEAN.

6. Rural Life.—The aim of this course is to study rural social life in America, with its problem of isolation, and organized efforts for improvement. The course is designed to meet the needs of Young Men's and Young Women's Christian Association secretaries, country ministers, teachers, social workers, and others who are dealing with the problems of rural communities. The country will be studied in its physical, economic, and psychological aspects with a view to a thorough understanding of rural life, a discovery of needs and existing efforts to meet these, and suggestions for further improvement. Mj. ASSISTANT PROFESSOR MACLEAN.

7. Problems of Industry.—A course designed for the discussion of some of the vital questions in American industrial life, including (1) the labor of women and children; (2) methods of settling disputes; (3) insurance against accident; (4) the improvement of physical conditions in factories; (5) efforts to render workers more efficient. The work will be conducted by means of textbooks, reports, and special studies. Mj. ASSISTANT PROFESSOR MACLEAN.

ANTHROPOLOGY

8. General Anthropology.—An introductory course treating of the origin, antiquity, distribution, and early occupations of man and of the sources of language, religion, the arts, and social relations. The student must consult the instructor before registering for this course. Mj. ASSOCIATE PROFESSOR STARR.

VIA. HOUSEHOLD ADMINISTRATION

1. House Sanitation.—This course offers a comprehensive and practical study, based on scientific principles, of the sanitary aspects of the home. Recent changes in sanitary theory and practice are especially emphasized. Among the topics treated are the choice of building site, construction and care of cellar, drainage, plumbing, heating, lighting, ventilation, furnishing, and cleaning. Mj. PROFESSOR TALBOT.

2. Foods and Dietaries.—A course in practical dietetics covering the study of the composition of foods, scientific principles of preparation, and their combination in dietaries from an economic and physiological standpoint. Prerequisite: high-school chemistry and physics. Mj. PROFESSOR TALBOT.

3. Administration of the House.—This course will consider the order and administration of the house with a view to the proper appointment of the income and the maintenance of suitable standards. Changes in household industries in the light of modern economic and social conditions and sanitation will be studied. The domestic service problem will be investigated. Mj. PROFESSOR TALBOT.

SCHOOL OF EDUCATION

4. Design, Decoration, and Furnishing of the House.—This course treats of the general principles which govern the decorating and furnishing of an artistic home, and is intended: (1) for home-makers, as an aid (a) in the selection of paints and stains for house exteriors, wall and floor coverings, draperies and upholstery, furniture, hardware, table appointments, etc., (b) in the arrangement of the home with due regard to color harmonies and space relations, and (c) in the designing and executing of such pieces of handicraft as stenciled or embroidered hangings and covers, lamp and candle shades, screens, pillows, etc.; (2) for teachers, as an enrichment of the courses in art and domestic science in primary and secondary schools, offering in the home a nucleus for a course embracing problems in design and handwork. The following topics are treated: (1) domestic architecture, selection from architects' drawings, exteriors and plans, making original plans; (2) color and color harmonies, applied to the exterior and interior of a house; (3) proportion and space relations with illustrative problems in designs; (4) study in detail of walls, floors, stairs, doors, windows, furniture, hardware, and textiles, with investigation, under direction, of articles to be found in the stores. Mj. MISS RAYMOND.

5. Theory of Teaching Home Economics.—

A. This course includes an analysis of the subject-matter of home economics and a discussion of the phases of this material to be taught in the elementary and secondary schools. The specific problems analyzed are experimental cooking problems, dietaries, marketing, household management, household sanitation and decoration. The organization of elementary-school courses is also considered, and outlines for one- and two-year courses are developed. This course is planned for students taking a two-year departmental certificate, or a degree with a minor sequence in home economics. Prerequisite: 2 majors in Education and 3 in Home Economics. M.

B.¹ This course develops the problems of organization of secondary-school courses. It includes a study of the relation of home economics to the other work in the high school, especially the science sequence. Courses in the various aspects of home economics are also planned. The development of wider social bearings of home economics, such as school feeding problems, visiting housekeeper, and housekeeping center classes, is also discussed. This course completes the required major in Teaching of Home Economics. Prerequisite: 2 majors in Education, and 5 in Home Economics, including course 5A. M.

MISS HANNA.

VIII. THE ORIENTAL LANGUAGES AND LITERATURES

(For courses see p. 69)

X. SANSKRIT AND INDO-EUROPEAN COMPARATIVE PHILOLOGY

1. Elementary Sanskrit.—The aim of the course is to give the student a thorough grounding in the essentials of Sanskrit grammar, the principles of which are illustrated by constant translation from Sanskrit into English and from English into Sanskrit. It is designed as an introduction to the selections from classical Sanskrit in Lanman's *Reader*, which the student should then be prepared to read rapidly by himself. No attempt is made to teach comparative philology in this course. Mj. ASSISTANT PROFESSOR CLARK.

¹ Not available during 1915-16.

2. The Bhagavad Gītā.—The Sanskrit text of this most famous of all Hindu religious books will be read and some attention will be paid to the content and the development of the doctrines contained in it. Mj. ASSISTANT PROFESSOR CLARK.

3. History of Sanskrit Literature.—The aim of this course is to give a brief survey of the literature of India—a literature of no small intrinsic value and one which offers much that is of interest to the occidental student. An effort will be made to gain some intelligent appreciation of the social and intellectual conditions under which this literature was produced, and to form some conception of its place in the literature and thought of the world. No knowledge of Sanskrit or Pali is necessary, but a large amount of reading in translations will be required. Mj. ASSISTANT PROFESSOR CLARK.

4. History of India.—This course will trace the political history of India and the parallel social development from the time of the Rig-Veda to the Battle of Plassey in 1757. The formation of the Mongol empire in Central Asia will be traced in order to give a background for the treatment of the Mogul period in India. Mj. ASSISTANT PROFESSOR CLARK.

Hindu Philosophy.—(Cf. description under Philosophy 10.) Mj. ASSISTANT PROFESSOR CLARK.

The Religions of India.—(Cf. description under Comparative Religion 4.) Mj. ASSISTANT PROFESSOR CLARK.

XI. THE GREEK LANGUAGE AND LITERATURE

ACADEMY

A1. Elementary Greek.—In two majors is offered the equivalent of the first year of high-school work in Greek. The writing of Greek is required from the beginning.

A. White's *First Greek Book*, Lessons 1-60. These lessons include the commonest noun and adjective declensions, the Omega system of conjugation, some fundamentals of syntax, connected reading lessons epitomizing the story of the *Anabasis*, and a vocabulary of 600 common Greek words. Mj.

B. (1) White's *First Greek Book*, Lessons 61-80, including a study of the Mi system of conjugation, reading lessons, continuing the *Anabasis* story, and an additional vocabulary of 250 words; (2) the *Anabasis* of Xenophon, Book i, chaps. 1-3. These lessons call for constant review of the material studied in the *First Greek Book*. Mj.

ASSISTANT PROFESSOR BRONSON.

A2. Xenophon: *Anabasis*.—

A. From Book i, chap. 4, through Book ii, chap. 4, about fifty pages. Exercises in writing Greek based upon the text. Mj.

B. From Book ii, chap. 5, through Book iv, about ninety pages. Greek composition, including a topical treatment of syntax. Occasional tests in translation at sight. Mj.

ASSISTANT PROFESSOR BRONSON.

A3. Homer: *Iliad*.—

A. Books i-iii.—An introductory study of the *Iliad* in which the literary and linguistic aspects of the poem and the Greek life of the Homeric period are considered. Particular attention is paid to prosody and the peculiarities of epic dialect and syntax. Mj.

B. Books vi-xxii (*passim*).—The selections read in this course are chosen with a view to giving the student an idea of the plot of the *Iliad* as a whole. They include parts of books vi, ix, xv, xvi, xix, and xxii. The grammar, dialect, and prosody are reviewed, and the text is made the basis of a general literary and elementary critical study of the *Iliad*. Mj.

MR. NELSON.

COLLEGE

Courses 1, 2, 3, and 4 are designed for students who begin Greek *after entering college*. They are co-extensive with the corresponding residence courses, are conducted in the same manner, and are intended to prepare the student for the advanced required work. The first three Majors are equivalent to the first year's work in college.

1. Elementary Greek.—The purpose of this course is to give a mature person or one who has had four years of good high-school training sufficient drill in the most common forms and principles of syntax of the Greek language. After a very few lessons, the *Anabasis* is begun, and throughout the entire course attention is paid to the writing of simple sentences in Greek. Mj. MR. NELSON.

2. Xenophon: *Anabasis*.—The *Anabasis* is continued from the point reached at the end of course 1, and six more chapters from Book i, with selections from Books ii and iii, are read. A systematic study of syntax is begun, with frequent exercises in prose composition. Mj. MR. NELSON.

3. Xenophon: *Anabasis* (Advanced).—Books iv, v, vi, and selections from vii are read in this course, and the systematic study of syntax begun in course 2 is completed. The literary style of Xenophon and the historical content of the *Anabasis* are also subjects of study. Mj. MR. NELSON.

4. Homer: *Iliad*.—This is an introductory course to the study of Homer. The forms and syntax of the epic dialect are contrasted with those of the Attic dialect, and the essentials of prosody are presented. Selections from the *Iliad* amounting to about 2,000 lines are read. The course includes a literary study of this epic, with its pictures of life in the Homeric period. Mj. MR. NELSON.

5. Plato: *Apology* and *Crito*.—In connection with these writings, short selections from Xenophon's *Memorabilia* will be read to furnish a basis for the study of the life and philosophy of Socrates as interpreted by Plato and Xenophon. The course includes a brief outline of Plato's life and works, and a discussion of the syntax and idioms of Plato. Mj. MR. NELSON.

6. Homer: *Odyssey*, Books v–xii.—This course aims chiefly at enabling the student to translate Homer fluently and with appreciation. It also includes a review of epic dialect and syntax, and a study of Homeric life and antiquities. Mj. MR. NELSON.

7. Herodotus: *Historiae* (Books vii–viii).—The reading covers the invasion of Xerxes including the battle of Salamis. The history of this period and the language and style of the author are studied. Mj. MR. NELSON.

8. Advanced Prose Composition.—The course offers to teachers and others an opportunity to perfect themselves in Greek syntax, sentence structure, and the use of particles. The exercises are graded from simple narrative passages in the style of Xenophon to more difficult selections in the style of Plato and Demosthenes. Mj. PROFESSOR BONNER.

9. Demosthenes: *Philippics*, and Lysias: *Selected Orationes*.—A general introduction to Attic oratory. The literary characteristics of the authors studied and the public life and the history of their times are considered. (Informal.) Mj. MR. NELSON.

10. Demosthenes: *De Corona*.—This oration, admitted to be the greatest one of ancient times, will be studied chiefly from the literary point of view. (Informal.) Mj. MR. NELSON.

11. Introduction to Greek Tragedy.—Sophocles' *Antigone* and Euripides' *Medea* are read. Attention is given to the various problems connected with these plays, to the character delineation, and the method of presentation. Collateral reading is assigned on the history of Greek tragedy and theater. Mj. MR. NELSON.

12. Aristophanes.—An introduction to the study of Greek comedy; intensive study of two plays, probably the *Clouds* and *Birds*; the language and technique of Aristophanes; the external environment and inner spirit of Athenian comedy. Mj. PROFESSOR PRESCOTT.

Members of the Greek Department will endeavor to arrange informal courses for students who are prepared to do work of an advanced nature whenever practicable. Professor Shorey will occasionally guide by correspondence the work of advanced students who propose to attend the University.

NOTE.—Related courses will be found under Departmental Nos. I and XVI.

XII. THE LATIN LANGUAGE AND LITERATURE

ACADEMY

1. Elementary Latin.—In two majors is offered the equivalent of the first year of high-school work in Latin. Starting with the rudiments, the aim is to acquaint the student with all the regular forms and common constructions found in Caesar's *De Bello Gallico*, and to give him a large vocabulary.

A. Includes all the declensions of nouns and adjectives, all the conjugations of regular verbs, and the simplest rules of syntax. Mj.

B. Provides (1) a review of verb forms, the conjugation of the irregular verbs and the more difficult constructions in syntax, and (2) the study of Caesar: *De Bello Gallico*, Book i, chaps. 1-30, covering the Helvetian War. Mj.

MISS PELLETT.

2. Caesar: *De Bello Gallico*.—

A. *Book ii*.—This course is intended for students who have completed course 1, but who have had no other practice in translation. Special attention is given to a review of forms and syntax. Exercises in prose composition based upon the text form a part of each lesson. Mj.

B. *Books iii-iv*.—Continues the above. The more difficult Caesarian constructions are carefully studied, and further practice is given in prose composition. Mj.

C. *Book i*.—The latter part of Book i, the war with Ariovistus, is read. While forms, syntax, and prose composition continue to be studied, indirect discourse receives special attention. M.

MISS PELLETT.

3. Viri Romae.¹—A series of twenty lessons based upon the interesting stories of early Rome; open to those who have completed course 1 or its equivalent, and who desire to increase their vocabulary and acquire facility in reading Latin. M. MISS PELLETT.

4. Nepos.¹—Like course 3 in aim and prerequisites. M. MISS PELLETT.

5. Cicero: *Orationes*.—

A. *In Catilinam, i-iv*.—This course includes translation, a review of forms and of more difficult constructions, exercises in Latin composition based upon the portion of text assigned in each lesson, and the history of the period. Mj.

B. *Pro Lege Manilia* and *Pro Archia*.—Continues A and includes a careful study of the literary style of Cicero, of all historical references, and exercises in prose composition based upon the portion of text assigned in each lesson. Especial attention is given to translating into good English. Mj.

MISS PELLETT.

6. Vergil: *Aeneid*.—

A. *Books i-ii*.—The work includes a study of prosody, word-derivation, constructions peculiar to the poets, and the more common rhetorical figures. Mj.

B. *Books iii-vi*.—Continues A and lays emphasis upon elegance of translation, the mythology, and the literary style of Vergil. Mj.

MISS PELLETT.

7. Selections from Roman Writers.¹—This course will be of advantage to those who wish to become acquainted with the style of different Roman writers. Mj. MISS PELLETT.

¹ This course commands no credit.

8. Prose Composition Based on Caesar.¹—This course affords (1) practice in writing Latin in connected passages based on Caesar's *De Bello Gallico*, (2) a thorough review of grammatical forms and constructions found in the *De Bello Gallico*; (3) a careful study of synonyms. As the course is informal, special attention can be given to any subject in which the student is deficient. M. MISS PELLETT.

9. Prose Composition Based on Cicero.¹—Like course 8, using the orations as a basis. M. MISS PELLETT.

NOTE.—The courses 1-9 are intended for three classes of students: (1) those who are preparing to enter college; (2) those who wish to study Latin for their own benefit; (3) teachers of Latin who from the topics and questions in each lesson can receive suggestions for their own work, e.g., the points to be emphasized at different stages in Caesar, Cicero, and Vergil.

COLLEGE

10. Cicero: *De Senectute*.—The entire essay is read with studies in syntax and exercises in prose composition based upon the text of each lesson. M. MISS PELLETT.

11. Terence: *Phormio*.—This play, as a specimen of the highest development of Roman comedy, is carefully studied with regard to composition, presentation, etc. Attention is also given to vocabulary, metrical treatment, and ante-classical forms and constructions. M. ASSISTANT PROFESSOR BEESON.

12. Livy.—The twenty-first book and a large part of the twenty-second, describing Hannibal's expedition against Rome up to Cannae, are read, with accompanying studies in literary style and syntax and exercises in prose composition, based in each case upon the portion of text assigned in each lesson. Mj. ASSISTANT PROFESSOR BEESON.

13. Horace: *Odes*, Books i-iii.—This course includes: commentary upon the details of each ode, syntactical, historical, illustrative, etc.; translations, analysis of thought, and general interpretation; and a study of the metrical form. A list of general topics, material for the study of which is to be found in the odes, is presented at the outset, and the student is expected to select one of these for his especial study. Mj. PROFESSOR MILLER.

14. The Latin Subjunctive.—The course presents a systematic treatment of the subjunctive according to the latest scientific theories. All the forms found in preparatory Caesar or Cicero are classified. The student may choose to classify the forms either in Caesar or in Cicero, or in such a combination of the two as shall be equivalent in amount to either. The course is intended primarily for teachers. Mj. MISS PELLETT.

15. Advanced Prose Composition.—The course offers to teachers and others an opportunity to perfect themselves in Latin syntax, sentence and paragraph structure. The exercises are graded from simple passages in the style of Caesar to more difficult extracts in the style of Cicero. Prerequisite: three majors of college Latin. Mj. ASSISTANT PROFESSOR BEESON.

16. Cicero: *De Amicitia*.—Primarily a translation course, with questions based on subjects suggested by the text. The lessons will afford drill in syntax and some practice in the writing of Latin. M. ASSISTANT PROFESSOR BEESON.

17. Plautus.—

A. *Captivi*.—This course will deal especially with the linguistic side of Plautus. The vocabulary and scansion will be studied and ante-classical forms and constructions noted. Good idiomatic translation will be required. M.

B. *Trinummus*.—Here the literary side will be emphasized. The course will deal especially with Plautus' style, plot, and delineation of character. As in the first minor, much attention will be paid to translation. M.

ASSISTANT PROFESSOR BEESON.

¹ This course commands no credit.

18. Tacitus: *Agricola* and *Germania*.—In the reading of these works both their historical importance and their literary merits are brought out. The course is an introduction to the language and style of Tacitus. Mj. ASSOCIATE PROFESSOR BEESON.

19. Cicero: *Epistulae*.—A study of the character and career of Cicero from the evidence afforded by the material contained in one hundred selected letters and from supplementary historical and biographical sources. The course also deals with the peculiarities of epistolary Latin and with the general subject of letter-writing in ancient Rome. Mj. ASSISTANT PROFESSOR BEESON.

20. Ovid.—Selections from *Epistulae*, *Amores*, *Fasti*, *Metamorphoses*, and *Tristia*. The object of the course is to make a general study of the life and works of Ovid and of his place in Roman literature. (Informal.) Mj. PROFESSOR MILLER.

21. Seneca: *Tragedies*.—The tragedies of Seneca will be studied for their style, as characteristic of the period, and their content; they will be compared with the corresponding Greek dramas, and their influence upon English drama will be touched upon. Three plays will be read from the Latin text, and the remainder from an English translation. (Informal.) Mj. PROFESSOR MILLER.

22. Horace: *Satires* and *Epistles*.—Selected satires and epistles are carefully read and analyzed, with particular regard to argument, character portrayal, style, and their place in literature. (Informal.) Mj. PROFESSOR MILLER.

23. Horace and Persius: *Satires*.—A brief review of the predecessors of Horace in the field of satire, a reading of selected satires, of Horace and Persius, with a study of the characteristic features of each. (Informal.) Mj. PROFESSOR MILLER.

24. Juvenal.—The object will be to present, through the study of selected satires, a picture of life and manners at Rome under the Early Empire. (Informal.) Mj. ASSOCIATE PROFESSOR BEESON.

25. Topical Studies in the Works of Vergil.—This course presupposes a considerable familiarity with Vergil on the part of the student. It is not a reading course, but the *Eclogues*, *Georgics*, and particularly the *Aeneid* will be the field of investigation under various topics relating to different objects of study in the works of this author. A list of topics will be presented to the student, of which the following are typical: "Vergil's Verse and Its Metrical Peculiarities"; "Poetic Constructions in Vergil"; "Vergil as a Poet of Nature"; "The *Aeneid* as a National Epic"; "Vergil's Use of Metaphor and Simile." The student will be expected to select a certain number of these topics and, with them in mind, to go through the works of Vergil under direction of the instructor, collect all material bearing upon them, and present his results in finished form. The instructor will at all times furnish such aid as may be necessary and will criticize the results. (Informal.) Mj. PROFESSOR MILLER.

26. Roman Conception of the Immortality of the Soul.—This course is the study of a topic, and is based for material upon a variety of authors: Cicero's *Tusculan Disputations*, i, *De Senectute*, *De Amicitia*, *Epistulae*; Vergil's *Aeneid*, Book vi; Horace's selected odes; Ovid, Seneca, Persius, etc. (Informal.) Mj. PROFESSOR MILLER.

27. Training Course for Teachers.—The object of the course is to give the teacher working alone and often at a distance from authorities, an opportunity to appeal for assistance and advice along any lines connected with his teaching of Latin. Naturally there are some subjects which nearly all teachers find it profitable to take up in a somewhat formal way, e.g., pronunciation, translation, metrical reading, composition, etc. In addition to these, each teacher will have his own problems to discuss. The course is designed to meet these general and individual needs. (Informal.) Mj. PROFESSOR MILLER.

Members of the Latin Department will endeavor to arrange informal courses for students who are able to do work of an advanced nature, whenever practicable.

XIII. ROMANCE LANGUAGES AND LITERATURES

1. Elementary French.—In two majors is offered the equivalent of the first year of high-school work in French. The writing of French is required from the beginning.

A. The aim is to acquaint the student with the essentials of French grammar, to enable him to turn short English sentences into idiomatic French and vice versa, and to acquire some ability in translation. Mj.

B. This course (1) reviews and extends considerably the knowledge of grammatical principles and the irregular verbs acquired in the preceding major; (2) fixes it by means of exercises in composition; and (3) through drill in translation develops in the student ability to read easy French at sight. Mj.

ASSISTANT PROFESSOR NEFF.

2. Intermediate French.—The work of this course follows immediately upon that of "Elementary French, B." The books read deal with life in France and inform the student regarding the national traits and conditions. The exercises in composition take the form sometimes of a résumé of the text read, sometimes of reproduction in French of exercises based on the text. The grammar is studied inductively. Mj. ASSISTANT PROFESSOR NEFF.

3. Advanced French.—Idioms, synonyms, diction; (a) systematic review of elementary French grammar; (b) syntax; (c) reading: Mérimée, *La Chronique de Charles IX*; (d) composition based on the reading. Prerequisite: course 2. Mj. ASSISTANT PROFESSOR DAVID.

4. French Reading.—(A. *Modern Novels*, or B. *Modern Dramas*.)

A. *Modern Novels*.—Anatole France, *Le Crime de Sylvestre Bonnard*; Honoré de Balzac, *Eugénie Grandet*; George Sand, *La Mare au Diable*. Criticism of the novel. Prerequisite: course 3. Mj.

B. *Modern Dramas*.—V. Hugo, *Hernani*; E. Augier, *Le Gendre de M. Poirier*; A. Dumas fils, *La Question d'Argent*; E. Rostand, *Cyrano de Bergerac*. Criticism of the drama. Prerequisite: course 3. Mj.

ASSISTANT PROFESSOR DAVID.

5. Advanced French Reading.—(A. *Modern Dramas and Lyrics*, or B. *Modern Novels and Lyrics*.)

A. *Modern Dramas and Lyrics*.—The work will be based on the dramas of 4 B and selections from the lyric poets, especially Chénier, Lamartine, Musset, Victor Hugo; versification; criticism of lyric poetry. Prerequisite: course 4 A. Mj.

B. *Modern Novels and Lyrics*.—The work will be based on the novels of 4 A and selections from the lyric poets, especially Chénier, Lamartine, Musset, Victor Hugo; versification; criticism of lyric poetry. Prerequisite: course 4 B. Mj.

ASSISTANT PROFESSOR DAVID.

NOTE.—If A has been chosen in course 4, A of course 5 must be chosen; if B of course 4, B of course 5 must be chosen.

6. Cours de Style.—Principes généraux, exercices pratiques de composition française. Prerequisite: 6 majors of French or the equivalent. Mj. ASSISTANT PROFESSOR DAVID.

7. Introduction to the Study of French Literature.—A general survey of French literary activity from 1600 to 1850. Prerequisite: 6 majors of French or the equivalent. Mj. ASSISTANT PROFESSOR DAVID.

8. Molière and the French Comedy in the Seventeenth and Eighteenth Centuries.—

A. *Molière and His Contemporaries*. (17th c.) Mj.

B. *Molière's Successors*. (18th c.) Mj.

These two majors include a study of the lives of the principal authors, their influence on the theater, with intensive study of the following plays: (a) Corneille, *Le Menteur*; Molière, *Les Précieuses Ridicules*, *Tartuffe*, *Le Misanthrope*, *L'Avare*, *La Critique de l'Ecole des Femmes*, *Le Bourgeois Gentilhomme*, *Les Fourberies de Scapin*, *Don Juan*, *Les Femmes Savantes*, *Le Malade Imaginaire*. (b) Regnard, *Le Légataire Universel*, *Le Joueur*, *Les Folies Amoureuses*; Lesage,

Turcaret; Marivaux, Le Jeu de l'Amour et du Hasard, Le Legs, L'Épreuve, Les Fausses Confidences; Destouches, Le Philosophe Marié; Gresset, Le Méchant; Beaumarchais, Le Barbier de Séville, Le Mariage de Figaro. This is intended to familiarize the student with the masterpieces of classical comedy. Constant comparison will be made between the language of these writers and that of today, and the most unusual constructions will receive consideration. The work is conducted wholly in French. Prerequisite: course 7 or its equivalent.

ASSISTANT PROFESSOR DAVID.

9. Molière.—A critical study of all the plays of the great writer. All the reports must be written in French. This secures to the student a thorough course in advanced French composition as well as a comprehensive knowledge of Molière's work. Prerequisite: 9 majors of French. Mj. ASSISTANT PROFESSOR DAVID.

10. Old French (Elementary Course).—The importance of some historical knowledge of French as a part of the teacher's equipment is now generally recognized. Old French is also an indispensable language for research in the modern literatures. This course corresponds to course 46 in residence and may be taken to advantage by students looking forward to resident graduate work. A good knowledge of modern French is necessary, and also some knowledge of German and Latin. Texts: *La Chanson de Roland; Aucassin et Nicolette; Erec et Enide; La Representation d'Adam.* For reference: Nyrop, *Grammaire historique de la langue française*, Vols. I-IV. Mj. PROFESSOR JENKINS.

11. Elementary Italian.—This course is devoted chiefly to the study of Italian grammar. It includes practice in composition and in translation. The lessons are based on Grandgent's *Italian Grammar* (new edition, with Wilkins' *Lessons and Exercises*), Wilkins' *Notes on Italian Grammar*, and Wilkins' and Altocchi's *Italian Short Stories*. Mj. ASSOCIATE PROFESSOR WILKINS.

12. Intermediate Italian.—The main object of this course is to enable the student to understand written Italian thoroughly and readily. The work is chiefly in translation. Goldoni's *La locandiera* and part of Manzoni's *I promessi sposi* are read as carefully as possible, and one or two other books are assigned for more rapid reading. The course includes also some practice in composition. Prerequisite: course 11 or its equivalent. Mj. ASSOCIATE PROFESSOR WILKINS.

13. Elementary Spanish.—This course is designed to enable the student to attain a clear conception of the fundamental principles of Spanish grammar and syntax. All the lessons furnish practice in turning Spanish into English and English into Spanish. Mj. ASSISTANT PROFESSOR ENKE.

14. Intermediate Spanish.—This course consists of (1) a more detailed study of the principles of Spanish grammar, as presented in Ramsey's *Textbook of Modern Spanish*; (2) the writing of sentences illustrating these principles; (3) the careful reading of about 350 pages of simple Spanish prose, including Padre Isla's version of *Gil Blas*, Hill's *Spanish Tales for Beginners*, and *Zaragüeta* by Carrión-Aza, special attention being directed to points of syntax, idiomatic expressions, and synonyms; and (4) exercises in prose composition based on the reading assignments. Prerequisite: course 13 or its equivalent. Mj. ASSISTANT PROFESSOR ENKE.

15. Spanish Prose Composition.—This course is designed to give the student a practical command of Spanish as a medium of expression. It may be varied to adapt it to the needs of the student, now tending more to commercial forms of composition, now to those forms used in literature or by the traveler. Prerequisite: course 13 or its equivalent. Mj. ASSISTANT PROFESSOR ENKE.

16. Modern Spanish Novels and Dramas.—This course is intended to fit students for the appreciative reading of the best modern Spanish literature. It includes the careful reading of about 450 pages of fairly difficult modern Spanish prose and verse, including *La Familia de Alvarada* by Fernán Caballero, *José* by Palacio Valdés, and *Guzmán el Bueno* by Gil y Zárate, special attention being directed to (1) the more difficult points of syntax; (2) translation into Spanish of selections based on the reading; and (3) abstracts of the reading assignments

to be written in Spanish. Prerequisite: course 14 or its equivalent. Mj. ASSISTANT PROFESSOR ENKE.

17. Don Quixote.—This is mainly an interpretative and critical reading course, embracing the first fourteen chapters of the first part and the first ten chapters of the second part of "Don Quixote." The life of Cervantes and the literary movement of his time will be noticed. In the reading, the peculiarities of syntax, style, and diction, as compared with later Spanish, will be studied. A bibliography of the more important works will be given, enabling the student who may wish to make a more extensive study of the author to do so. Prerequisite: course 16 or its equivalent. Mj. ASSISTANT PROFESSOR ENKE.

XIV. GERMANIC LANGUAGES AND LITERATURES

1. Elementary German.—In two majors is offered the equivalent of the first year of high-school work in German. The writing of German is required from the beginning.

A. This course aims to ground the student in the essentials of German grammar through the reading of easy idiomatic German and exercises in which special attention is given to the construction of the verb, noun, and adjective. Mj.

B. Continues and extends A to include the passive voice and the subjunctive, and calls for extensive reading of easy prose. Mj.

ASSISTANT PROFESSOR VON NOÉ.

2. Review of First-Year German.—The course provides a thorough review of as much of the elementary grammar and syntax of the language as is usually presented in the first year of standard high-school work. It will appeal especially to students who desire to renew their acquaintance with the fundamentals preparatory to further study of German and to those who have acquired their knowledge of the tongue by some natural method. [This course is interpolated in the regular sequence and does not command credit: the charge for it is \$16.00 regardless of combination.] ASSISTANT PROFESSOR GRONOW.

3. Intermediate German.—Devoted primarily to the reading of easy modern prose, and incidentally to a rapid review of elementary German grammar. The text read will always serve as the drill-ground for grammar work. Attention will be directed constantly to German idiom, and from time to time the student will be required to reproduce in German what he has read. In the composition work emphasis will be laid upon word order and sentence structure, the knowledge of which is essential to the proper appreciation of the language. Mj. ASSISTANT PROFESSOR GRONOW.

4. Elementary Prose Composition.—Through the reproduction of ordinary narrative English into German and by means of original composition, the student is led to appreciate the difference between English and German idiom. The course also provides a comprehensive review of the grammar and syntax of the language. Mj. ASSISTANT PROFESSOR GRONOW.

5. German Idioms and Synonyms.—The course comprises the study of (1) the method of word formation; (2) grammatical idioms; (3) synonyms, together with a thorough review of syntax. Attention is given to German-English cognates. Composition based upon selected modern German prose affords the basis of instruction. The course will be helpful to those who teach the language in secondary schools. Mj. ASSISTANT PROFESSOR GRONOW.

6. Modern German Dramas.—This is primarily a reading course corresponding to course 6 in residence. It aims at the acquisition of the foundations of idiomatic German on the basis of the language of the dramas read. A short theme in German on the subject chosen from the reading is required with each lesson. Mj. DR. PHILLIPSON.

7. Scientific German.—The aim of the course is to enable the student to read German scientific prose. It has the same prerequisites as the preceding course. Short exercises in German composition connected with the text are required. Mj. ASSISTANT PROFESSOR VON NOÉ.

8. Deutsche Aufsätze und Stilübungen.—An advanced course in composition corresponding to course 11 in residence. It includes a study of masterpieces of the best German stylists and the criticism and development of graded themes. The theme-subjects deal with German life, history, and literature. The aim of the course is to develop the student's ability in essay writing. Of special value to teachers. Mj. ASSISTANT PROFESSOR VON NOÉ.

9. Introduction to the Study of German Literature.—This course covers the ground of course 21 (A, B, and C) in residence, the first required course in German literature. Through a critical study of representative masterpieces and supplementary readings the student is introduced to the whole range of the literature and furnished some knowledge of the notable movements in it. The course is divided into two parts, either of which may be taken without the other. Prerequisite for either Major: course 8 or its equivalent.

A. This covers the field of German literature from the earliest times through Lessing. The selections from Old High German and Middle High German literature will be read in modern German translations. Mj.

B. This is a continuation of A and follows the same general plan. The works to be studied are chosen from Goethe, Schiller, Kleist, Heine, Eichendorff, Grillparzer, Hauptmann, and Sudermann. Mj.

DR. PHILLIPSON.

10. The German Short Story.—The development of the short story (*Novelle*) into an art-form is one of the most interesting phenomena of nineteenth-century literature. The study of this evolution in Germany together with the various forms of the short story extant—the dramatic, the lyric, the historical, the social, etc.—is the object of this course. The student will read, under guidance, selected stories of Kleist, Tieck, Hoffmann, Riehl, Auerbach, Rosegger, Meyer, Keller, Fontane, Liliencron, and others. Reports and essays (in German) will be required. This course may be taken by anyone who has a fair reading and writing knowledge of German. Mj. DR. VON KLENZE.

11. Heine's Prose and Poetry.—The reading of the larger part of the lyrics, the dramas, and the *Reisebilder* will be accompanied by a study of the author's life and the general tendencies of the Romantic movement, and by investigations into the poet's sources and literary technique. The course covers the ground of course 42 in residence. Prerequisite: course 9B or its equivalent. Mj. DR. PHILLIPSON.

12. Goethe's Lyric Poetry as an Exponent of His Life.—No writer so minutely reflects his moral and intellectual growth in his lyric poetry as does Goethe. A chronological study of his lyrics affords, therefore, a subtle appreciation of his whole individuality. The student will pursue a study of the standard biographies of Goethe, together with his letters and autobiographical writings, while at the same time reading carefully the lyrics written during each period of his life. Essays in German are required throughout the course. Mj. DR. VON KLENZE.

13. Friedrich Hebbel: A Study of Modern German Drama.—Hebbel was one of the most powerful individualities of the nineteenth century and one of the most significant figures of German literature. His drama is the expression of new principles in dramatic literature, which many years later appeared in modified form in the social dramas of Ibsen. A comparison of conceptions of tragedy as found in the classic drama of the Greeks, in the Shakspearean drama, and in the work of modern playwrights will be made, in order to define as clearly as possible Hebbel's contribution. Mj. DR. VON KLENZE.

14. Deutscher Satzbau und Stil.—A sequent to "Deutsche Aufsätze und Stilübungen," corresponding to course 101 in residence. Several long themes of the type of term papers are required. Prerequisite: course 8 or its equivalent. Mj. ASSISTANT PROFESSOR VON NOÉ.

15. The Modern German Essay.—A study of the literary and historical essay of the nineteenth century combined with practical exercises in which the student will be expected to reproduce the style and diction of the authors studied.

The course corresponds to course 214 in residence and is open to those who have passed creditably "Deutsche Aufsätze und Stilübungen" and "Deutscher Satzbau und Stil" or have had equivalent training in German theme writing. Of special value to graduate students and teachers who aim to acquire a high degree of efficiency in German essay writing. Mj. ASSISTANT PROFESSOR VON NOÉ.

16. Outline History of German Literature.—

A. Includes a survey of the development of German literature from the scanty remnants of the earliest period of tribal migrations, heroic romances, and early ballads, through the first period of efflorescence—the twelfth and thirteenth centuries with their troubadours and national epics; the period of Humanism and the Reformation, up to the second period of efflorescence—the eighteenth century. Mj.

B. Aims at a more detailed study of prominent writers of the eighteenth century; the Romantic Movement with its best representatives, and the most characteristic novelists, dramatists, and lyricists of the nineteenth century. A is not prerequisite to B. Mj.

DR. VON KLENZE.

NOTE.—Prerequisites for both A and B: Students taking either one of these courses must have a good reading knowledge of German as well as the ability to write it with some ease. It is advisable that at least one of the courses in some special field of German literature like "The Short Story," or "Goethe's Lyrics," or their equivalents, should precede this course.

17. German Literature in Its Earlier and Later Relations to England.—

An introduction to comparative literature corresponding to course 190A in residence. Study is made of the influence of the Elizabethan drama, of English classicism, romanticism, and Scottish folk-songs upon German drama, fiction, and poetry. Mj. ASSISTANT PROFESSOR VON NOÉ.

18. German Literature in Its Earlier and Later Relations to France.—

A course in comparative literature equivalent to course 190B in residence. It aims to bring out the influence of Old French epic and lyric poetry, of French Renaissance poetry, of French classicism, romanticism, and naturalism upon the corresponding periods of German literature. Mj. ASSISTANT PROFESSOR VON NOÉ.

19. Contemporary German Literature.—The course is designed to give the student an appreciation of current German Literature and to introduce him to the modern literary tendencies of the Fatherland. Representative novelists, dramatists, and lyric poets are studied. This course presupposes a good reading knowledge of German. Mj. or DMj. ASSISTANT PROFESSOR VON NOÉ.

20. Gothic.—A consideration of Gothic phonology, morphology, and syntax in connection with the reading of selections from the Bible translation of Wulfila. Intended as a review course or for those who have had philological training. Mj. PROFESSOR WOOD.

21. Old High German.—The reading of selections from Braune's *Althochdeutsches Lesebuch*, with reference to the same author's *Abriss der althochdeutschen Grammatik*. This course is a natural sequent of course 20. Prerequisite: course 20 or its equivalent. Mj. PROFESSOR WOOD.

22. Old Saxon.—The work will be based on Holthausen's *Altsächsisches Elementarbuch*. Open to those who have had courses 20 and 21 or their equivalent. Mj. PROFESSOR WOOD.

23. Old Norse-Icelandic Prose.—The purpose of the course is to offer students who have had a beginning course in Icelandic an opportunity to learn to read Icelandic prose readily. An annotated saga text providing about three hundred pages of reading matter is selected, and the student is asked to read in addition on the antiquarian and literary problems involved. During 1915-16 the *Egils saga Skallagrímssonar* will be read. Zoëga's *Old Icelandic Dictionary* is recommended. Prerequisite: Residence course 112 or its equivalent; a beginners' course involving a historical study of the sounds and inflections of the

language and the reading of about 40 pages of Old Icelandic prose. This prerequisite course must itself be preceded by "Gothic." Mj. ASSISTANT PROFESSOR GOULD.

SCHOOL OF EDUCATION

24. The Teaching of German in Secondary Schools.—The method of teaching German in high schools and academies has undergone radical changes within the last few years. The object of this course is (1) to make the teacher acquainted with the new methods and their application to the teaching of pronunciation, grammar, composition, reading, and translation; (2) to furnish him an opportunity to discuss his particular problems. Mj. ASSISTANT PROFESSOR GRONOW.

XV. THE ENGLISH LANGUAGE AND LITERATURE

ELEMENTARY

1. English Grammar.—An elementary course in practical English grammar, assuming no technical knowledge of the subject, and intended for students who need instruction or review in the fundamental principles of the language, especially with relation to the correct combination of words in sentences. In some cases this course will be desirable as preparation for the following composition courses. [This course commands no credit: the charge for it is \$16.00. For "English Grammar for Teachers," see course 37 below.]

ASSOCIATE PROFESSOR MARSH.

ACADEMY

2. Preparatory English Composition.—

A. A simple introduction to English composition, intended mainly for the following classes of students: (1) those who have had no formal training in the subject; (2) foreigners with some knowledge of grammar, but without much experience in writing the language; (3) any persons who are not properly prepared for a more advanced course. The work is roughly equivalent to the composition requirements of the first two years of a good high school, consisting in the writing of simple themes based mainly on the student's own experience and observation, and the preparation of exercises illustrating the simpler rhetorical principles. For credit see note below. Mj.

B. A more advanced course than the foregoing, substantially equivalent to the composition work of the last two years in a good high school, and definitely intended to prepare for college composition. Teachers in secondary schools also may find the course helpful in their work. Business and professional men whose early training has been deficient can gain valuable experience in practical composition from this course or the foregoing, according to the extent of the deficiency. The work consists of exercises illustrating all the main principles of rhetoric, and themes of a somewhat more difficult type than those asked for in course A. For credit see note below. Mj.

ASSOCIATE PROFESSOR MARSH AND MR. CHERINGTON.

3. Preparatory English Literature.—In two majors the works in English and American literature required for admission to college will be studied. The aim, however, is to make the courses valuable not only to students preparing for college, but also (1) to teachers of English in preparatory schools, and (2) to all persons who wish to take up, either for the first time or by way of review, the more simple and concrete phases of the study of literature. Those who desire the entire high-school work in masterpieces should register for the two majors in succession; those who wish to take the work for review, or to obtain help in methods of teaching the masterpieces, may choose for themselves. For credit see note below.

A. This course will cover approximately the work in literature of the first two years of the high school, with study of the simpler masterpieces among those listed "for reading" in the list of college-entrance requirements. Mj.

B. In this course the masterpieces listed "for study" will be emphasized, with attention also to some of the more difficult books among those listed "for reading." The work is approximately that of the last two years of high school and directly preparatory for college. Mj.

ASSOCIATE PROFESSOR MARSH AND MR. CHERINGTON.

NOTE.—Students who satisfactorily complete and pass the "A's" of both "Preparatory English Composition" and "Preparatory English Literature" will receive credit for the second of the three units in English required for entrance to college; those who satisfactorily complete and pass the two "B's" will receive credit for the third of the three units.

Commercial Correspondence.—(Cf. description under English 41.) M.
ASSOCIATE PROFESSOR LYMAN.

COLLEGE

4. **English I.**—This is designed to be a full equivalent of English 1 (the first course in English composition and rhetoric required of all students in residence) and commands corresponding credit. It presupposes the ordinary training in English composition received in a good high school, and represented in a general way by the preceding courses. More detailed study of the principles of rhetoric, as presented in a more advanced textbook, is made; and a higher standard of theme work, on a variety of topics usually chosen (subject to certain limitations) by the student himself, is expected. The emphasis throughout is placed upon writing of the most practical sort. A volume of prose selections is also used. Mj. ASSOCIATE PROFESSOR MARSH.

5. **English III.**—This course is designed to be a full equivalent of English 3 (the second course in English rhetoric and composition required of all students in residence) and commands corresponding credit. The course aims (1) to give training in structure, and (2) to give instruction and practice in the four forms of composition—exposition, argumentation, description, and narration. To these ends a textbook is required, lesson papers must be submitted, and a final examination taken. The written work will consist of six long themes each from 1,500 to 3,000 words in length, and twelve short themes of from 100 to 200 words each in addition to exercises based on the textbook. Students may gain admittance to the course by passing creditably "English I," or by submitting to the instructor an original exposition or argument showing ability. Mj. ASSISTANT PROFESSOR HULBERT.

6. **English IV.**—

A. *Exposition—Argument.*¹—Instruction will be given in pure argument, in the technique of debate, and in persuasive exposition. The work consists of (1) the writing of papers on the theory of these forms of composition; and (2) the writing of two briefs, two arguments, and two expositions. Mj. ASSOCIATE PROFESSOR LYMAN.

B. *Story-Writing.*¹—A course of two Majors replacing the single Major entitled "Narrative and Descriptive Writing" as formerly given. It is designed to teach the principles of story-writing with particular reference to the short story. The textbook has been prepared by Mr. Grabo to meet the particular needs of correspondence-study students.

1. Includes: an autobiography; exercises to bring out the essentials of narrative; exercises in the point of view; exercises in the study of the unities of action, time, and place; exercises and studies in exposition and preparation; a study of short-story introductions; study of and exercises in character drawing; descriptions of persons and places; a study of the writing of dialogue. Original character sketches, descriptions, themes in dialogue, and several short stories will be demanded in this half of the course. It aims to bring out the fundamentals of story structure and is designed for those who desire to write either short stories or

¹This course is open to others than graduates of "English III" who can present evidence, in the form of a statement of previous work and original productions, that they are prepared for it.

novels. Considerable reading in specified standard novels and short stories is demanded. Mj.

2. Continues 1 and takes up: a study of story ideas; construction of plots to illustrate various types of stories; a consideration of titles and the names of characters; a study of suggestion and restraint; a study of unity of tone; a study of the psychology of story-writing. In this Major more analyses of stories are asked for than in the first; more attention is paid to the development of plot, and more original work in the short story is expected. Reading of short stories and novels is required—a bibliography of these is furnished with the lessons. Prerequisite: English IVB-1, but those who have received credit for "Narrative and Descriptive Writing," the English IVB of preceding years, will be permitted to register for this Major. Mj.

MR. GRABO.

C. *Journalistic Writing*.¹—Study is made of the News Story, the Book Review, the Editorial, and the Feature Story. The forty lessons constituting the course include (1) critical exercises and (2) original work upon topics assigned by the instructor or approved by him from lists submitted by the student. A text is used as a basis for a part of the work. The student is expected to study the form of news stories and editorials in at least one good newspaper, to follow current topics in several of the best magazines, and to gather some of the material for his papers (notably the feature stories) from first-hand observation. Mj.

MR. GRABO.

7. English V.—*Magazine Writing*.¹—A course of forty lessons embracing the study and the writing of the Special Article, Literary Criticism, and the Personal Essay. The student will be required to read examples of these forms and to submit analyses of them. A volume of selected essays will serve as a text for the latter part of the course. Mj. MR. GRABO.

8. English VI.—*Advanced Composition*.—For students who have credit for a Major of "English IV" or for "English V" and who are desirous of receiving criticism upon essays, stories, or articles. There are no lessons or exercises, the sole requirement being that the student submit 30,000 words of original matter. The initiative lies solely with the student; the instructor confines himself to criticism and advice. It is essential that any student entering this course have definite work in mind. Others than graduates of "English IV" or "English V" will be admitted only upon the submission of MS displaying a technique adequate to the course. Mj. MR. GRABO.

9. *Versification*.²—This course is offered for students interested in the technique of English verse. It cannot be expected that such a course will develop finished poets. But it is offered for the purpose (1) of training students in verse-writing, and (2) of giving them an understanding of the technique of verse and hence increasing their appreciation of English poetry. The prime requisite in the student is that he have an interest in the subject, not that he have any special ability to write verse. To accomplish the purposes of the course, the student will study a textbook, make certain analyses of pieces of English verse, and write original verse of different types. Prerequisite: "English I" or its equivalent. M. ASSISTANT PROFESSOR HULBERT.

10. *Proofreading*.²—The course aims to equip the student with a knowledge of the practical details of typography, such as size of type, the methods employed by printers in composition, the niceties of spacing, and the work actually done by the printer in correcting proofs; to train the eye, the mind, and the memory in the application of consistent standards and the enforcement of rules of "style." With this groundwork the student is taught that proofreading is not merely a correction of misspelled words, but a profession calling for the use of a wide range of faculties, of individuality, and of independent judgment. The instruction includes actual reading of proof, and a practical application of theoretical details. Prerequisite: "English I" or an equivalent course. M. DR. POWELL.

¹ Cf. footnote on preceding page.

² Registrations accepted after October 1.

11. Copy-Editing.¹—A course designed for those whose work brings them in contact with printing and publishing houses, and especially for those desiring to equip themselves for secretarial duties. It will also aid writers and authors who wish to know how their own work or the work of others passing through their hands should be treated by the printer. The choice of typographical details and the good taste and judgment requisite to produce the best effect for each class of work; the application of the rules of "style"; the habit of consistency; intelligent subdivision of titles, etc., are taught in conjunction with a practical training in indexing and a knowledge of the various processes involved in making a book, such as make-up, plating, lock-up, printing, illustrating, etc. Prerequisite: course 10. M. DR. POWELL.

12. The Forms of Public Address.—This course though prepared especially for teachers of English interested in the oral side of the work is intended also for students of public speaking. It gives training in the most essential principles of constructive thinking, writing, and speaking, and includes gathering of information, organizing it for a definite purpose, and presenting it to meet varying conditions. It also embraces a study of the most common fallacies. In these ways the problem of organizing one's thought for public presentation, either in speech or in writing, is approached inductively through the careful analysis of certain masterpieces of public address. Among the forms studied are the following: the argument, the eulogy, the editorial, the commemorative address, the dedication, the toast, the after-dinner speech. Each student will be allowed reasonable leeway in selecting the particular form or forms of address he wishes to study intensively. Prerequisite: "English I" or its equivalent. Mj. ASSOCIATE PROFESSOR LYMAN.

13. The Development of English Literature.—This course is designed to be the full equivalent of course 40 in residence, the first required course in English literature. It introduces the student to the whole range of English literature by requiring the reading of selected masterpieces from *Beowulf* to the present time. Two volumes of selections from English authors, one of prose and one of poetry, and a short history of English literature are used as the basis of study. The aim is: (1) to give the student first-hand acquaintance with typical parts of the work of each of the leading English writers; (2) to study the place of the masterpieces in the development of English literature, in their relation not only to one another but also to historic events and conditions; (3) to give the student the foundation for an appreciation of literature. The course as a whole affords a broad introduction to the more detailed and critical study undertaken in English Literature by Periods." Mj. ASSOCIATE PROFESSOR MARSH.

14. An Introduction to American Literature.—A series of studies of American life in American literature. The first few lessons are given over to pre-Revolutionary literature for the purpose of observing the earliest departures from English models and traditions. Chief emphasis is, however, thrown on the poets, essayists, and novelists of the nineteenth century. While the aim of the course is to put the student in the way of obtaining a preliminary acquaintance with the subject as a whole, assigned readings are restricted to selected works of twelve or fifteen representative men of letters, from Irving and Cooper to Lanier and Whitman. Mj. ASSISTANT PROFESSOR DAVENPORT.

NOTE.—For admission to any one of the following courses, course 13 or its equivalent is prerequisite.

15. An Introduction to the Study of Shakspeare.—This course, corresponding to course 41 in residence, is planned to give the student a knowledge of Shakspeare's life and work, a familiarity with typical plays of the various periods in his dramatic career, some acquaintance with his relation to his age and its literature, and an introduction to the fields of Shakspearean criticism and scholarship. The following plays will be studied: *Richard III*, *A Midsummer-Night's Dream*, *Romeo and Juliet*, *I Henry IV*, *Much Ado about Nothing*, *Twelfth Night*, *Hamlet*, *King Lear*, *Antony and Cleopatra*, and *The Tempest*. Mj. ASSOCIATE PROFESSOR BASKERVILL AND MRS. BASKERVILL.

¹ Registrations accepted after October 1.

16. English Literature by Periods.—A series of reading courses, corresponding to courses 42–48 in residence, which cover with some minuteness the history of English literature from the middle of the sixteenth century down to 1892. In each major the work consists mainly in the reading of a large number of representative masterpieces of the period, and the preparation of answers to questions based upon this reading. Textbook work in a literary history of each period is assigned and the lesson sheets furnish much supplementary material, such as bibliographies of the required authors, suggestions for study of their principal works, etc. It is not necessary that the series be taken in chronological order, as each course is complete in itself; but those intending to take the whole series are advised to follow the chronological order. The series as a whole is designed to give first-hand knowledge of the chief masterpieces of modern English literature, excepting only Shakspere's works, which are treated in special courses. Persons who have had course 13 or its equivalent, and who desire to do systematic reading of English literature without regard to college credit, may also arrange for any of these courses.

A. *English Literature from 1557 to 1642.*—Reading from Spenser (at least one book of the *Faerie Queene* and various shorter poems), Wyatt, Surrey, Sackville, Sidney, Herrick, Milton (minor poems), and other poets; plays by Marlowe, Jonson, Beaumont and Fletcher, and lesser dramatists both before and after Shakspere; Ascham's *Schoolmaster*, portions of Lyly's *Euphues* and other works of fiction, Sidney's *Defence of Poesie*, Bacon, Raleigh, and Sir Thomas Browne. Mj.

B. *English Literature from 1642 to 1744.*—Reading of representative prose works of Milton, Taylor, Walton, Pepys, Clarendon, Bunyan, Dryden, Addison, Steele, Defoe, and Swift; poems of Milton (four books of *Paradise Lost*, *Samson Agonistes*, etc.), Dryden, Pope, Thomson, and numerous minor poets; plays by Dryden, Otway, Congreve, Wycherley, and other Restoration dramatists. Mj.

C. *English Literature from 1744 to 1798.*—Reading of novels by Richardson, Fielding, Smollett, Sterne, Johnson, Goldsmith, the so-called "Gothic" romancers, and Fanny Burney; miscellaneous prose by Johnson, Goldsmith, Boswell, Gibbon, and Burke; poems by Gray, Collins, Goldsmith, Chatterton, Blake, Cowper, Crabbe, Burns, and others; plays by Goldsmith and Sheridan. Mj.

D. *English Literature from 1798 to 1832.*—Poems by Wordsworth, Coleridge, Southey, Scott, Campbell, Moore, Byron, Shelley, Keats, Hunt, Hood, Landor; novels by Scott and Jane Austen; miscellaneous prose by Coleridge, Lamb, Hazlitt, DeQuincey, the reviewers, etc. Mj.

E. *English Literature from 1832 to 1892.*—Reading of numerous poems by Tennyson, the Brownings, Matthew Arnold, Clough, the Rossettis, Swinburne, Morris, and others; novels by Dickens, Thackeray, Charlotte Brontë, George Eliot, Meredith, Hardy, and Stevenson; miscellaneous prose by Carlyle, Macaulay, Newman, Arnold, Pater, Ruskin, and Stevenson. Mj.

ASSOCIATE PROFESSOR MARSH.

Courses A–E (or their equivalents) are required of all candidates for the Doctor's degree in English, and at least four of them (or equivalents) for the Master's degree. Hence, though a year of resident study is required for the Master's degree, students may take these required courses by correspondence and later do more highly specialized work in residence. Graduate credit will be given to properly prepared students, who do creditable work in their recitation papers and pass the final examination given on each course. Students not entitled to graduate credit, moreover, may register for any of the courses, the only prerequisite being course 13 or its equivalent.

17. The History of the English Language.—This course is offered in the belief that an understanding of what language is and of what the history of the mother-tongue has been is as important as a study of some part of its literature, and indispensable to the latter study. It attempts to give a general survey of the development of the English language; its relation to other languages; the chief periods; the development of forms, sounds, and meanings; and foreign influences. Prerequisite: "English III" or two years of college work. Mj. ASSISTANT PROFESSOR HULBERT.

18. The Growth of the English Novel.—The historical development of narrative prose fiction in English is traced in outline from the later mediaeval prose romancers and story-tellers to the beginning of the twentieth century. A brief preliminary review of the field of fiction is attempted in the initial lessons—the qualities shared by novelist and poet, the material common to both, the similarities in general construction of the novel and drama; and throughout, the continental influences are noted, sources inquired into, and the modifications in structure and content of the novel in succeeding periods are indicated. Illustrations of the various aspects and principles of the art of fiction are drawn from the representative works selected.

A. From Sir Thomas Malory to Oliver Goldsmith.—In this course one work of each of the following authors is read: Malory, Lyly, Sidney, Lodge, Greene, Nashe, Bunyan, Defoe, Swift, Richardson, Fielding, Smollett, Sterne, and Goldsmith. The character sketch of the seventeenth century, and its extension, by Steele and Addison in *The Spectator*, are briefly dealt with, as are other literary forms which contributed to, or tended to shape, the modern novel. Mj.

B. From Mrs. Radcliffe and Godwin to Stevenson and Kipling.—Beginning with the reappearance in England of romantic prose fiction—the “School of Terror,” or the “Gothic” romance, and the “School of Theory,” doctrinaire or revolutionary—one work of each of the following authors is read: Walpole, Mrs. Radcliffe, Godwin, Fanny Burney, Maria Edgeworth, Jane Austen, Scott, Cooper, Hawthorne, Lytton, Dickens, Thackeray, Kingsley, Trollope, Reade, Charlotte Brontë, George Eliot, Meredith, Hardy, Stevenson, and Kipling. The course concludes with a brief consideration of fiction as affected by the scientific movement of the nineteenth century, particularly by physiology and psychology. Mj.

MRS. GRAHAM.

19. The Drama in England from 1500 to 1600.—This course, the equivalent of course 84 in residence, includes a brief introductory survey of the mediaeval drama; a more detailed consideration of Renaissance drama, with the development of new types and new theatrical conditions; and finally a study of the development of a native romantic drama as revealed in the work of Lyly, Peele, Kyd, Greene, and Marlowe. Mj. ASSOCIATE PROFESSOR BASKERVILL AND MRS. BASKERVILL.

20. The Drama in England from 1600 to 1642.—This course is the equivalent of course 85 in residence. It deals with the rise of the comedy of humors and of manners, with the perfection and decadence of tragedy, and with the later phases of romantic comedy. Masterpieces of Jonson, Dekker, Heywood, Beaumont and Fletcher, Middleton, Webster, Massinger, Ford, and Shirley are studied, with attention not only to the characteristics of these writers but to their interrelations, their influence on the course of the drama, and their reflection of social conditions. Mj. ASSOCIATE PROFESSOR BASKERVILL AND MRS. BASKERVILL.

21. The Plays of Shakspeare.—In two majors corresponding to courses 70 A and B in residence is offered a rapid but fairly full survey of the plays of Shakspeare in chronological sequence. Attention will be directed to Shakspeare's handling of character and plot, to the development of his taste and technique, to the influence exerted upon his work by the literary and social trends of the time, and to evidence for dates, editions, sources, etc., for the individual plays.

A. The Plays of Shakspeare from 1591 to 1599.—This course, covering the plays through *Much Ado about Nothing*, includes the early tragedies and comedies, the chronicle plays, and the first masterpieces in comedy. The structure of comedy, the characteristics of witty comedy, Shakspeare's early style, and the reflection of social conditions in his comedies of this period are stressed. Mj.

B. The Plays of Shakspeare from 1599 to 1611.—This course, beginning with *Julius Caesar* and *As You Like It*, includes the chief tragedies, the Roman plays, and the comedies of the middle and later periods. Especial emphasis is laid on

the structure and art of tragedy, on the satiric element in the earlier plays of this period, and on the dramatic seriousness of Shakspeare's work. Mj.

ASSOCIATE PROFESSOR BASKERVILL AND MRS. BASKERVILL.

NOTE.—Course 15 or its equivalent is a prerequisite for courses 19, 20, and 21. Students who wish to get a connected view of Renaissance drama are advised to take the sequence, courses 19, 20, and 21.

22. The Life and Works of Spenser.—The course corresponds to course 69 in residence, and is for advanced, though not necessarily graduate, students. The *Faerie Queene* and the minor poems; allegory; the poet's versification; his position and significance with respect to mediaevalism, the Renaissance, and especially Elizabethan poetry are considered. Mj. ASSISTANT PROFESSOR KNOTT.

23. The Life and Works of Wordsworth.—A more detailed examination of the poet's most significant work, especially the *Prelude* and the lyrical ballads, and their significance with relation to the Romantic Movement. Prerequisite: course 16 D, "English Literature from 1798 to 1832." M. ASSISTANT PROFESSOR KNOTT.

24. The Works of Robert Browning.—The work of this "incorrigible optimist" offers unusual problems in subject-matter and in form. The peculiarities of his style, and the varied forms in which he wrote present abundant material for the study of technique, and of general principles of literary art.

A. *Studies in the Early Poems.*—This course gives detailed consideration to the poems published before 1868, thus including much of Browning's most characteristic and suggestive work. M.

B. *"The Ring and the Book" and Dramas.*—M.

ASSISTANT PROFESSOR DAVENPORT.

25. Studies in the Poetry of Tennyson.—The course deals with the most significant works of this representative nineteenth-century poet. Especial attention is given to his place in the development of English poetry, to the characteristic qualities of his verse, and to his close relation to the general currents of thought in his time. The study includes the early poems, *Maud*, *In Memoriam*, *The Idylls of the King*, and minor poems. M. ASSISTANT PROFESSOR DAVENPORT.

26. Representative English Essayists of the Nineteenth Century.—An advanced undergraduate study of six essayists, including a brief preliminary discussion of the appearance in England of the essay, and its development as a literary form. The work is based upon typical essays of Lamb, De Quincey, Macaulay, Carlyle, Ruskin, and Arnold. The method of study is the biographical and historical, and to a limited extent the philosophical. Emphasis is laid upon the intimate relation of literature to the forces of social life. Mj. MRS. GRAHAM.

27. The Makers of American Literature.—This course embraces a study of Emerson, Whittier, Longfellow, Lowell, Holmes, and Hawthorne—the representative writers of that period of intellectual activity in New England which roughly corresponds with the first half of the Victorian era. The various ways in which this activity expressed itself—in oratory, scholarship, Unitarianism, transcendentalism, and reform—are incidentally examined in so far as they affected or were affected by these writers. Sufficient attention is given to the general history of American literature to make this period intelligible to the student. Mj. MRS. GRAHAM.

28. The Short Story in English and American Literature.—In connection with a brief résumé of the history of the short story in England and America, students will read, critically, a number of representative stories by Irving, Hawthorne, Poe, Dickens, Bret Harte, Henry James, Page, Cable, Stockton, Davis, Mary E. Wilkins, Hardy, Doyle, Stevenson, Kipling, and others. The critical study will be devoted principally to investigation of the methods by which effectiveness is secured. Mj. ASSOCIATE PROFESSOR MARSH.

29. Modern Realistic Fiction.—This course is designed to present the content and method of a typical group of realistic novels. The following works, or their equivalents, will be read: George Eliot's *Silas Marner*, Hardy's *Tess of the*

D'Urbervilles, Ward's *Lady Rose's Daughter*, Howells' *A Modern Instance*, Meredith's *The Egoist*, Tolstoi's *Anna Karenina*, Zola's *L'Assommoir*, Frenssen's *Jörn Uhl*, Barrie's *Tommy and Grizel*, Fogazzaro's *The Patriot*. Mj. ASSISTANT PROFESSOR DAVENPORT.

30. Types of Mediaeval Literature: A Literary and Sociological Study.¹—This course is not a survey of the historical development of mediaeval literature, but a study of characteristic examples of the literature of feudalism in relation to the social and economic background. It attacks the problem of how the literature of the Middle Ages—a period of status based on land—differs from that of recent times—a period of individualism, competition, money economy, machine industry. Some attention will also be given to the characteristic literary forms. Prerequisite: "D" and "E" of "English Literature by Periods." Mj. ASSISTANT PROFESSOR DAVENPORT.

31. Contemporary Literature and Current Problems.—This course is designed as an untechnical survey of contemporary novels, plays, and essays that reflect the changing social, political, and ethical conventions of the day. Effort will be made to trace them, as far as possible, to such nineteenth century influences as Nietzsche, Ibsen, Maeterlinck, Shaw, and the socialist, anarchist, and decadent movements. Particular attention will be paid to the conflict of ideas popularly embraced under the head of "feminism"; to the present resurgence of individualism; to the aesthetic problems of present-day realism. The course will be based upon typical works by such novelists as Bennett, Wells, Galsworthy in England, and Herrick, Edwards, Dreiser in America; by such dramatists as Barker and Houghton; by such essayists as Walter Lippman, Mrs. Gilman, Olive Schreiner, and Ellen Key. Although outlines will be used, anyone entering this course should be capable of forming independent judgments of the works studied. Mj. MRS. GRAHAM.

32. The Irish Literary Revival.—A study in the literature of the modern Celtic revival presupposes some acquaintance with Celtic myth, legend, and romance. The course, therefore, begins with this subject, following with the living folk literature, fairy tales, folk tales and songs, and then passing to the work of the modern poets and dramatists. Yeats, Synge, Hyde, Lady Gregory, Ethna Carberry, and other writers will be read. M. ASSISTANT PROFESSOR DAVENPORT.

33. The Principles of Literary Criticism.—This course presents and compares some of the most influential critical tenets; examines the relations of literature to other arts, and the support given to criticism by recent studies in the psychology of artistic production. Mj. ASSISTANT PROFESSOR DAVENPORT.

34. Elementary Old English.—An introduction to the reading of Old English, corresponding in a general way to course 21 in residence. Mj. ASSOCIATE PROFESSOR MARSH.

35. Advanced Old English.—*Beowulf*.—An informal course in which the whole of the poem is read. Mj. ASSOCIATE PROFESSOR MARSH.

36. Introduction to Chaucer.—May be taken by students who have had no training in Middle English. Along with the reading of selected poems, there will be study of the main facts regarding Chaucer and his works. Mj. ASSOCIATE PROFESSOR MARSH.

SCHOOL OF EDUCATION

37. English Grammar for Teachers.—A much more advanced course than the one numbered 1, above; presupposing a fairly good knowledge of the subject. The recommendations of the Joint Committee on Grammatical Nomenclature are embodied. Some stress will be laid on the textbooks available and on the problems with which teachers have to deal. Mj. ASSOCIATE PROFESSOR MARSH.

38. The Teaching of English Composition in Secondary Schools.—Deals with the general problems of composition in the high school. Among the topics

¹ Registrations accepted after October 1.

considered are the following: aims, organization, criticism of themes, standardization, assignments, etc. The student is put in touch with the best books on teaching English, and is enabled to use his own classroom as a laboratory for the exercises and experiments required. In these ways the course is designed to co-ordinate closely with the daily duties of a student engaged in teaching. Mj. ASSOCIATE PROFESSOR LYMAN.

39. The Teaching of English Literature in Secondary Schools.—A survey course considering such topics as the reform movement, the modern point of view, the organization of the course of study, the basis of method, the teacher's preparation, etc. Adapted, as course 38, to the activities of the student's own classroom. May be elected by students not teaching if they have the opportunity to observe good teaching in neighboring high schools. Mj. ASSOCIATE PROFESSOR LYMAN.

40. The Teaching of Oral English in Secondary Schools.—

A. Oral English.—This course guides the student in his own oral work. It involves intensive consideration of good practices in reading and speaking together with extensive practice in oral composition and in interpretative reading. M.

B. High-School Problems.—Considers such topics as oral contests, literary societies, reading clubs, dramatization, debating, etc. Treats of various phases of oral English, both as it supplements the regular classes in composition and in literature, and as it is involved in classes devoted entirely to oral work. May also be elected to advantage by students engaged in teaching. M.

ASSOCIATE PROFESSOR LYMAN.

41. Commercial Correspondence.—A course in business letter-writing designed for teachers who are interested in the vocational and practical aspects of their subjects, especially teachers of English and of commercial branches. It is intended also for those who desire practical instruction in business writing. The course deals with the argumentative, persuasive, rhetorical, and formal elements of commercial correspondence. Some of the topics considered are: how a letter is read; the value of paragraphing; the first sentence; mistakes in language; the negative and the positive suggestion. The following special forms are studied intensively from models: acknowledgments, remittances, notices of shipment, adjustment, credit, collection, recommendation, application, sales. Mj. ASSOCIATE PROFESSOR LYMAN.

Forms of Public Address.—(Cf. description under English 12.) Mj. ASSOCIATE PROFESSOR LYMAN.

NOTE.—Related courses will be found in Departments XVI, CLI.

XVI. GENERAL LITERATURE

This Department offers work to two distinct classes of students: (1) those doing graduate work in comparative literature, for whom a knowledge of the original languages and some previous training in literature are indispensable; (2) those doing undergraduate work, who wish to become acquainted with foreign literatures for the purpose of general culture, and for whom a reading knowledge of the original languages, though desirable, is not necessary. The courses presuppose "English I" and "The Development of English Literature" or their equivalent.

1. Masterpieces in World Literature.—The aim of this course is to present the literature of the world as it is seen in perspective by English-speaking peoples. Moulton's *World Literature* will furnish the point of view and the historic and literary background for the course. This will be supplemented by the reading, wholly or in part, of selected masterpieces, among which will be the five literary Bibles theoretically treated in the textbook—the Holy Bible, Classic Epic and Tragedy, Shakspeare, Dante and Milton, and versions of the story of Faust. There will also be readings in comparative literature, studies in collateral literature, and a survey of strategic points in the development of literature as a science. As

an equivalent to General Literature 1 in residence, it is primarily a college course but it is also adapted to the needs of the general reader. Works not English will be read in translation. Books for the required reading may be found in any well-selected library or may be borrowed from the University by arrangement with the Director of the Libraries. Mj. PROFESSOR MOULTON AND MISS SCHRADER.

2. The Literary Study of the (English) Bible.—This course is intended for those who teach or expound the Bible, and for those who merely read it as a part of universal literature. The aim of the course is (1) to familiarize the student with the literary forms found in the Scriptures, under the general divisions of Lyric Poetry, History with Epic, Wisdom Literature, Prophecy, and forms of Address; (2) to show how the separate books of the Bible when read in their literary sequence, draw together with a literary connection like the unity of a dramatic plot. Moulton's *The Modern Reader's Bible*—in which the books of the Bible with three of the Apocrypha are edited in modern literary form—and Moulton's *The Literary Study of the Bible* are the required texts. Mj. PROFESSOR MOULTON AND MISS SCHRADER.

3. Dante and Milton.—The purpose of this course is to familiarize the student with the special significance of Dante as an interpreter of Mediaeval Catholicism and of Milton as a revealer of Renaissance Protestantism. The study will include a brief survey of the life and early work of each of the poets, but emphasis will be placed upon the *Divina Commedia* and *Paradise Lost* as these embody the spirit of progressive civilization. Special attention will be given to the structure of the poems as related to the matter presented; to the aspects of good and evil as interpreting the philosophical thought of Mediaevalism and the Renaissance; and to the elements of creative excellency which give to both Dante and Milton a place among the supreme poets of the world. For the study of Dante, Plumptre's metrical translation is recommended, but the prose translation of C. E. Norton may be used; for the study of Milton, the Cambridge edition of *Milton's Poetical Works* will be used. The required work of the course is based upon matter contained in the texts, but bibliographies are included and recommended readings are cited to aid the student who desires to supplement the required work with more exhaustive study. Mj. MISS SCHRADER.

4. Studies in Modern Drama.—In the drama produced in England and on the continent since Ibsen began to write, opportunity is offered for the study of some of the most significant and representative literature of our time. This course offers plays by Ibsen, Bjornsen, Strindberg, Sudermann, Hauptmann, D'Annunzio, Tchekhof, Phillips, Jones, Pinero, Shaw, Galsworthy, Moody, Rostand, Echegaray, Yeats, Synge, and Maeterlinck. Mj. ASSISTANT PROFESSOR DAVENPORT.

5. Homer and Ancient Tragedy for English Readers.—The aim of this course is to present Greek epic and tragedy from a purely literary point of view. It will include a study of the poetic heroes of the Argonautic Expedition and of the Trojan War. The works will be read in translation and in the order of the story sequence rather than in the chronological order of their authorship. Under the myth of the first generation *The Argonauts* of Apollonius, *Medea* of Euripides, and *Jason* of William Morris (a modern reconstruction) will be read. A larger selection of works will be included under the myth of the second generation, including the *Iliad*, the *Odyssey*, and tragedies of Aeschylus, Sophocles, and Euripides that touch the story of the Trojan War. Besides noting the place these works occupy in the progressive development of a story sequence, both epics and tragedies will be studied with reference to structure and general technique. Vergil's dependence upon Homer and his influence upon mediaeval literature will also be noted. Mj. PROFESSOR MOULTON AND MISS SCHRADER.

6. German Literature (in English).—This course attempts a survey of the principal movements in German Literature from its first appearance to the present day. Representative authors are studied and constant attention is given to the connection of social and intellectual life with German poetry. Mj. DR. PHILLIPSON.

German Literature in Its Earlier and Later Relations to England.—(Cf. description under German 17.) If taken in this Department only translations of German authors will be used. Mj. ASSISTANT PROFESSOR VON NOÉ.

German Literature in Its Earlier and Later Relations to France.—(Cf. description under German 18.) If taken in this Department only translations of German authors will be used. Mj. ASSISTANT PROFESSOR VON NOÉ.

XVII. MATHEMATICS

ELEMENTARY

1. Complete Arithmetic.—This course is intended as a review of the general principles of arithmetic. While serving the student, it will be helpful to grade teachers preparing for examination. Part I treats of general number, the four fundamental operations, factoring, fractions, and practical applications of denominate numbers. Part II drills upon the applications of percentage, and actual methods of modern business. Part III considers ratio and proportion, powers and roots, mensuration, and the metric system. Numerous problems are given to illustrate all points. [This course does not command credit: the charge for it is \$16.00.] ASSOCIATE PROFESSOR LAVES.

ACADEMY

2. Elementary Algebra.—

A. This course is designed for beginners and deals in a very simple way with the elementary principles of algebra. It will prove especially helpful to high-school students who have found the subject a difficult one, since special emphasis is laid upon type-forms and modern methods of instruction. The principal topics discussed are: the four fundamental operations of algebra, solution of linear equations and of systems of simultaneous linear equations, together with an introduction to the subject of graphs. [This course by itself does not command credit.] M.

B. This course presupposes A and deals with factoring, fractional and literal equations, involution, evolution, theory of exponents, radicals, graphics, quadratics involving one unknown quantity and simultaneous quadratic equations. Mj.

C. Continues B, taking up the general properties of quadratic equations, the binomial theorem, imaginary and complex numbers, an elementary study of determinants up to the fourth order, and ends with a general theory of equations. Mj.

ASSOCIATE PROFESSOR LAVES.

3. Plane Geometry.—The theory is well illustrated by numerous original exercises. The first major comprises the first two books; the second, the remainder of plane geometry. DMj. ASSOCIATE PROFESSOR LAVES.

4. Review of Elementary Mathematics.—To meet the constant demand for help in reviewing elementary mathematics the following courses are offered. They are open to anyone who can present satisfactory evidence of a first study of the subject-matter, but because they presuppose this they do not command credit. The charge for tuition is \$16.00 per course regardless of combination.

A. *Algebra through Quadratics.*—The ground covered corresponds to that in Schultze's *Elementary Algebra* (pp. 1-331).

B. *Plane Geometry.*—The ground covered corresponds to that in Schultze and Sevenoak's *Plane and Solid Geometry* (Revised) (pp. 1-237).

ASSOCIATE PROFESSOR LAVES.

Descriptive Geometry.—A series of four majors. (Cf. description under Drawing C, p. 68.) MR. FERSON.

COLLEGE

5. Solid Geometry.—Here, as in plane geometry, the main emphasis is laid on exercises calling for original work. Mj. ASSOCIATE PROFESSOR LAVES.

6. Plane Trigonometry.—Theory and practice in the solution of triangles by natural functions and logarithms. Applications to simple problems of surveying, physics, and astronomy. Properties of the trigonometric functions treated analytically and graphically. Applications to simple harmonic and wave motion. Mj. PROFESSOR WILCZYNSKI.

7. Spherical Trigonometry with Applications to Geodesy and Astronomy.¹—The course presupposes a good knowledge of plane trigonometry and acquaints the student with that wide realm of elementary geodesy and positional astronomy opened to him through his knowledge of plane and spherical trigonometry. The course serves likewise as a link between elementary mathematics and the beginner's calculus by a study of the spheroidal form of the earth body. Mj. ASSOCIATE PROFESSOR LAVES.

8. College Algebra.—The notion of variable and function, and their geometric representation. Variation. Equations of the first degree and determinants. Quadratic equations, complex numbers, and theory of equations. Fractional and negative exponents, exponentials, and logarithms. Mathematical induction, binomial theorem, and progressions. Limits and infinite series. Undetermined coefficients, permutations, combinations, and probability. Mj. PROFESSOR WILCZYNSKI.

9. Plane Analytic Geometry.—Rectangular, oblique, and polar co-ordinates in the plane. The relation between a curve and its equation. The algebra of a variable pair of numbers and the geometry of a moving point. Specific applications to the properties of straight lines, circles, conic sections, and certain other plane curves. Extension of the most fundamental of these notions to space. Mj. PROFESSOR WILCZYNSKI.

10. Solid Analytic Geometry.—The co-ordinate systems in space. Lines, planes, and quadric surfaces. General properties of surfaces and space curves. (Informal.) Mj. PROFESSOR WILCZYNSKI.

11. Calculus with Applications.—This is designed for students intending to pursue the study of pure or applied mathematics as well as for those who are actively engaged in work which presupposes a knowledge of calculus. An important feature throughout is the large number of practical applications. In dynamics, physics, mechanical and electrical engineering a working knowledge of the calculus is essential. Therefore in the exposition of the theory dynamical, physical, and geometrical illustrations are freely used. It is the aim to acquaint the student with the kind of mathematics which he will find useful and to cultivate the power of applying the principles of the calculus, at first to simple, then to more difficult practical problems. The course is divided into three parts; for the first of them, A, a knowledge of solid geometry, trigonometry, college algebra, and plane analytic geometry is requisite.

A. This deals mainly with the differential calculus and applications. Mj.

B. Chief attention is given to the integral calculus and applications. Mj.

C. This provides (1) a continuation of the treatment of several topics begun in A and B; (2) applications of the calculus; (3) a brief treatment of differential equations. Mj.

PROFESSOR WILCZYNSKI.

12. Analytical Mechanics.—

A. An elementary course aiming to give the student a firm grasp of the physical principles involved, leaving aside at first all mathematical developments which do not contribute directly to this end. By the solution of graded problems the student is taught to use his knowledge of mathematics in the solution of concrete problems of nature. The course includes a short introduction to the underlying principles of the motion of a particle. The main body is devoted to the

¹ Registrations accepted after January 1, 1916.

statics of a system of particles and of rigid bodies. Prerequisite: differential and integral calculus. Mj.

B. Continues A and deals with the dynamics of a particle and of a system of particles. The motion of rigid bodies together with a short study of generalized co-ordinates completes the course. Mj.

ASSOCIATE PROFESSOR LAVES.

13. Theory of Equations.—The fundamental properties of algebraic equations, their transformation, and the approximate determination of their roots. Determinants, symmetric functions, and invariants. (Informal.) Mj. or DMj. PROFESSOR WILCZYNSKI.

14. Differential Equations.—Discussion of problems which lead to differential equations and of the standard methods for their solution. (Informal.) Mj. or DMj. PROFESSOR WILCZYNSKI.

15. Introduction to Analysis.—A somewhat critical study of the fundamental elementary notions of Analysis. Hardy's *A Course in Pure Mathematics*. (Informal.) DMj. PROFESSOR MOORE.

GRADUATE

16. Advanced Mechanics.—

A. *The Dynamics of a System of Particles.*—Free and constrained motion of the material point. General principles bearing on the dynamics of systems of particles. Lagrange's generalized co-ordinates, the canonical co-ordinates of Hamilton and Jacobi, and Jacobi's partial differential equations, additions of Donkin and A. Mayer. Mj.

B. *The Dynamics of Rigid Bodies.*—System of vectors, distribution of mass, instantaneous motion; dynamics of rotating bodies. Mj.

C. *The Theory of the Potential.*—This course includes the theory of Spherical Harmonics. Mj.

ASSOCIATE PROFESSOR LAVES.

17. Advanced Analytic Geometry.—Homogeneous point-, line-, and plane-co-ordinates with applications to projective geometry. Projective, dualistic, and other transformations. The importance for geometry of the notions—transformation, group, and invariant. (Informal.) Mj. or DMj. PROFESSOR WILCZYNSKI.

18. Projective Geometry.—Veblen and Young's *Projective Geometry*. (Informal.) DMj. PROFESSOR MOORE.

19. Theory of Functions of a Real Variable.—Hobson's treatise on the subject will be used. (Informal.) DMj. PROFESSOR MOORE.

20. Theory of Functions of a Complex Variable.—Burkhardt's *Einführung in die Theorie der analytischen Funktionen*. (Informal.) DMj. PROFESSOR MOORE.

21. Algebraic Invariants.—First introduction to the theory of invariants and covariants of algebraic forms. Solution of numerous elementary problems; applications to cubic and quartic equations, geometry, etc. Dickson's *Algebraic Invariants* will be used. Mj. PROFESSOR DICKSON.

22. Substitution Groups and Galois' Theory of Algebraic Equations.—A first course, with many problems, based on Dickson's *Introduction to the Theory of Algebraic Equations*. Mj. PROFESSOR DICKSON.

23. Linear Associative Algebra.—The classical theory of hyper-complex numbers; introduction to quaternions. Dickson's *Linear Algebra* is used. Mj. PROFESSOR DICKSON.

24. Invariantive Theory of Numbers.—Elements of a general theory of invariants applicable to the classical algebraic case and to the number-theory case; modular geometry. At the outset will be given the few needed definitions and theorems in the theory of numbers. The work is based on Dickson's *Invariants and the Theory of Numbers*. Registered students ready for independent investigation will be assigned suitable subjects in this only partially developed field of mathematics. Mj. or DMj. PROFESSOR DICKSON.

25. General Analysis.—A study of classes of functions of a general variable, based on Moore's *Introduction to a Form of General Analysis*. Prerequisite: a knowledge of the theories of convergent series and of continuous functions. (Informal.) Mj. or DMj. PROFESSOR MOORE.

SCHOOL OF EDUCATION

26. Theory of the Teaching of Elementary-School Mathematics.—This course is based on a good knowledge of the subject-matter of arithmetic, algebra, and geometry. It includes a critical study of (1) the content, (2) the organization, and (3) the methods of presenting mathematics to grade pupils. The curriculum is critically studied from grade to grade, with a view to determining the best type of work for the modern elementary public school. Some attention is given also to testing the results of arithmetic teaching. Mj. PROFESSOR MYERS.

27. The Psychology of Number.—The work of this course requires a good knowledge of the subject of arithmetic and some power of abstract thought. Questions having to do with the psychological genesis, and growth of the number concept are examined. The psychologic grounds for and against the ideas which have dominated pedagogic method in the elementary mathematics are critically examined. The variable unit conception of number is studied with special care. The purpose of the course is to make teachers of elementary mathematics clearly conscious of the function of this subject in elementary education, thereby rendering this practice immune from contagion of shallow mechanical devices as methods of training the number faculty of children. Mj. PROFESSOR MYERS.

28. Teachers' Course in the First Two Years of Secondary Mathematics.—This course covers the essentials of the work in mathematics usually taught in the first two years of the high school. The subjects, algebra and geometry, are related to each other and to other topics not usually treated in the first two years. Thus trigonometry is introduced in the second year leading to the solution of the right triangle and simple trigonometric equations. The course serves as a review from the point of view of the teacher, it suggests methods of presenting the subject-matter to high-school classes, and brings the teacher into close touch with modern ideas and methods. It presents the work under the aspect of unified mathematics. DMj. PROFESSOR MYERS.

29. The Teaching of Secondary Mathematics.—This course covers the general theory of the teaching of secondary subjects. It examines critically the best modern courses in algebra, geometry, and trigonometry, and undertakes to point out the present defects in the organization and administration of the mathematical work in high schools with a view to specifying desirable improvements. Some general attention is given to the advantages and disadvantages of fusion mathematics. Subject-matter is treated only in so far as needed to exhibit method and organization. Mj. or DMj. PROFESSOR MYERS.

30. The Teaching of College Algebra, Trigonometry, and Analytics.—A good academic knowledge of these subjects is required for admission to this course. The following topical enumeration will suggest the nature of the questions considered: (1) the purpose of college algebra, trigonometry, and analytics in the curriculum of the college: (a) viewed from the teacher's standpoint, (b) viewed from the student's standpoint; (2) method of teaching these subjects as determined by this purpose; (3) the correlation idea as applied to Freshman college mathematics; (4) the laboratory method in Freshman college mathematics; (5) use of graphical work early and all along; (6) applications of these subjects in teaching them; (7) dangers of this teaching becoming too abstract; (8) order and sequence of special topics. Any recent text in each of these subjects will answer. Mj. PROFESSOR MYERS.

31. History of the Science of Mathematics.—This course is intended to put the student in possession of a knowledge of the most fruitful epochs and of the most salient influences of mathematical history; to make him more keenly appreciative of the fact that his science is and always has been a growing science, to inform him that the attitude of mind exhibited by the works of the great

mathematicians is most conducive to progress today; in short, to assist the mathematical student to identify himself more intelligently with those men and movements which are making for mathematical advance at the present time. Mj. PROFESSOR MYERS.

The History of Astronomy.—(Cf. description under Astronomy 2.) Mj. PROFESSOR MYERS.

Members of the Mathematical Department will endeavor to arrange informal courses for students who are able to do work of an advanced nature, whenever practicable.

VIII. ASTRONOMY

1. Descriptive Astronomy.—An elementary general culture course designed: (1) to furnish an idea of the principles, methods, and results of the science; (2) to show the steps by which the remarkable achievements in it have been attained; and (3) to unfold that extended horizon which astronomy has laid open. This work covers the recent investigations respecting the origin and development of the solar system. Moulton's *Introduction to Astronomy*. (Informal.) Mj. PROFESSOR MOULTON AND ASSISTANT PROFESSOR MACMILLAN.

2. The History of Astronomy.—This is a culture course on the subject for persons who desire to familiarize themselves with the scientific ideas, methods, and results that have determined scientific progress down to recent times. The history of no science so fully exhibits the complete scientific method as does the history of this oldest, most complete, and most exact of all the sciences. A careful study of it may well constitute a part of a liberal education. It is both stimulating and directly helpful to teachers of high-school science and mathematics. A real basis for much of the high-school mathematics is furnished by supplying the astronomical setting from which it sprang. Mj. PROFESSOR MYERS.

3. Celestial Mechanics.—A treatment of the dynamics of the solar system, including the contraction theory of the heat of the sun, the attraction of bodies, the two-body problem, determination of orbits, the general integrals of motion, the three-body problem, and perturbations. Moulton's *Introduction to Celestial Mechanics*. Prerequisite: course 11 in Mathematics or its equivalent. (Informal.) DMj. PROFESSOR MOULTON AND ASSISTANT PROFESSOR MACMILLAN.

XIX. PHYSICS

1. Elementary Physics.—

A. Mechanics, Molecular Physics, and Heat.—This course corresponds essentially to the first major of course 1 in residence, and is designed to cover the first half-year's work in elementary physics as given in high schools and academies. A text is followed rather closely in the reading lessons, supplemented by new problems and references to other textbooks. The apparatus for the required laboratory work, together with detailed instructions for setting it up and performing the experiments, is packed in a special case and shipped to the student. Reports on both the reading and laboratory work are submitted by the student for approval or correction. A deposit of \$15.00 is required for the loan of the apparatus. This will be refunded when the same is returned intact, less expressage and \$3.00, the loan fee. Mj.

B. Electricity, Magnetism, Sound, and Light.—A continuation of course A and the equivalent of the second half-year of high-school physics. The plan for text and laboratory work laid down under course A is followed in this course. A deposit of \$15.00 is required for the loan of apparatus. This will be refunded when the same is returned intact, less expressage and \$3.00, the loan fee. Mj.

ASSISTANT PROFESSOR MOORE.

NOTE.—Courses A and B together constitute the admission unit in physics.

XX. CHEMISTRY

1. General Inorganic Chemistry (sequel to High-School Chemistry).—The two majors into which the work is divided furnish a review and a continuation of "Elementary Chemistry" and form the link between the average high-school course in chemistry and "Qualitative Analysis." They correspond to courses 2S and 3S in residence. In view of the fact that different students will have different degrees of preparation, the number of lessons may be varied by omitting such parts of the subject as the student may already have mastered; in this way the work will be adapted to individual needs, and waste of time and effort will be avoided. Students must provide themselves with a balance sensitive to one centigram, with weights 50 gm. to 0.01 gm., and must have access, at least, to a barometer. This apparatus cannot be loaned. The rest of the *apparatus* needed for either course A or course B will be loaned for a deposit of \$15.00. The *chemicals* necessary for course A will be loaned for a deposit of \$10.00, and for course B for \$15.00. When the apparatus and chemicals are returned, the deposits will be refunded, less the cost of checking, non-returnable and missing parts, breakage, carrying charges and a fee of \$1.50 for the use of the apparatus in each major, \$2.50 for the chemicals in course A, and \$3.50 for those in course B.

A. This course includes a study of the principal non-metallic elements and their chief compounds. It includes also the study of the laws and principles of the science and their use in explanation of chemical phenomena. The laboratory work, which is an important part of the course, affords opportunity for gaining direct knowledge of the different substances, their modes of manufacture, and their properties. In the choice of illustrations preference is given to the industrial and other applications of chemistry. Prerequisite: a course in inorganic chemistry as ordinarily given in high schools. Mj.

B. Continues course A, and deals chiefly with the metallic elements. Mj.

DR. RAIFORD.

2. Qualitative Analysis.—The second year of college work in chemistry is offered in the following three majors. The apparatus and the reagents for any one of them will be loaned for a deposit of \$30.00. If only the set of sixty glass stoppered bottles, required for the necessary solutions, is needed, they will be loaned for a deposit of \$6.00. The deposit will be refunded when the apparatus is returned, less deductions for the loan (\$1.50 for the apparatus, \$3.50 for the chemicals, \$0.50 for the bottles), checking, carrying charges, and broken and missing parts. An extra charge of \$1.00 per major is made for "unknowns."

A. This course aims to present the fundamental methods of qualitative analysis. The analytical reactions of the most important metals and acids are studied. This is done in such a way that the student learns the art of performing tests, and comes to understand how the methods of separation and detection are based upon a judicious selection and arrangement of these tests. During the course each student analyzes a number of simple salts, and a few mixtures which contain, in each case, only the metals or acids of a single group. Qualitative analysis has been modified by the influence of physical chemistry. The theories of solution and of electrolytic dissociation, and the study of problems in chemical equilibrium have all contributed to furnish analytical chemistry with a scientific foundation which it never possessed before. Course A is planned to develop the subject with this scientific, theoretical foundation and at the same time to give a thorough foundation in *systematic analysis*. Prerequisite: "General Inorganic Chemistry" (A and B) or the equivalent. Mj.

B. Continues course A and gives the student practice in the *systematic analysis* of simple salts, simple mixtures, and, finally, of rather difficult mixtures in which the metals and acids are to be determined. Fifteen to twenty "unknowns" will be analyzed. The main object of the course is to develop *accuracy* and *reliability* and these must be demonstrated in the final analyses to secure credit. Mj.

C. Continues course B and requires the analysis of complicated mixtures, and especially the analysis of minerals and commercial products. Mj.

PROFESSOR STIEGLITZ.

XXI. GEOLOGY

ACADEMY

1. Physical Geography.—This course is designed especially for high-school students or those desiring a course equivalent to that given in a first-class high school. The lessons treat of the form of the earth and its solar relationships; the work of running water, underground water, waves, glaciers, and the atmosphere as agencies which are at present, as in the past, modifying the earth's surface; and the phenomena of vulcanism and movements of the earth's crust. Some attention is paid to climate. Emphasis is laid on the relation between man and his physiographic environment and outdoor features are made the basis for some of the later lessons. Mj. DR. STEPHENSON.

COLLEGE

2. Physiography.—The course embraces the following general subjects: (1) the form of the earth as a whole, and its relation to other members of the solar system, particularly the sun and the moon, with the consequent changes in the length of day and night and the seasons; (2) the atmosphere—its constitution, temperature, pressure and movements, weather changes and climate; (3) the ocean—its constitution, temperature, movements, geologic activities, coastline phenomena; (4) the land—the geologic processes by which the earth's topography has been chiefly determined, and the varied topographic types which result therefrom, including the study of the origin and development of plains, plateaus, river valleys, mountains, volcanic cones, islands, and seashore features. The effects of man's physical environment upon his distribution, his habits, and his occupations will be continually emphasized. Topographic maps and folios will be studied, and the maps will be used in connection with land forms. The rocks and minerals forming the earth's crust will be treated as fully as the course permits. The last lessons will give the student some opportunity to do individual field work. Laboratory methods will receive attention throughout the course. The course covers the ground of course 1 offered in residence, and is suited to the needs of those who teach physical geography and physiography in preparatory schools. Mj. PROFESSOR CALHOUN.

3. General Geology.—This course treats of the leading facts and principles of geology, and the more important events of geological history. It embraces the following general subjects: (1) the materials of the earth; (2) physiographic geology—the work of atmosphere, running water, glaciers, waves and currents, and organic agencies treated in a manner to supplement the physiographic studies of course 2; (3) volcanic, diastrophic, and structural geology; (4) elementary studies in the interpretation of topographic and geologic maps; (5) historical geology—a systematic study of the development of the series of geological formations, with special reference to the evolution of the North American continent, and the historical development of life forms; (6) economic geology; (7) a special general geological report on a particular area in the student's own vicinity. This course covers the ground of course 5 in residence, and is adapted to the needs of teachers in high schools and academies, to those interested in economic geology, and also to students not intending to specialize in geology. Course 2, while desirable, is not a prerequisite. Mj. DR. STEPHENSON.

4. Interpretation of Topographic and Geologic Maps.—This course is intended especially to introduce teachers of high-school, normal-school, and college grade to modern methods of laboratory work in physiography and general geology. It may also be taken by teachers of nature-study in the grades, and by those interested in regional physiographic problems. It will serve as a basis for the study of the physiographic features of widely separated regions in the United States, and as a supplement to the physiographic studies of courses 2 and 3. The course assumes that the successful teaching of physiography must be accompanied by a clear understanding of topographic maps, and by their continued use. It is based on topographic maps of the United States Geological Survey, and a

guide to their interpretation, and includes: (1) general principles in the interpretation of topographic maps; (2) topographic forms resulting from the work of wind, ground water, running water, glaciers, oceans and lakes, diastrophic movements, and vulcanism; (3) interpretation of the physiographic history of specially selected regions, on the basis of topographic maps; and (4) enough work with geologic maps to show something of the connection between geologic structure and topography. Prerequisite: a knowledge of physiography equivalent to that afforded by either course 2 or 3. M. PROFESSOR TROWBRIDGE.

5. Elementary Mineralogy.—A course intended to familiarize students with the common minerals. A large part of the work will consist in determining, principally by means of their physical properties—streak, hardness, cleavage, specific gravity, etc.—the 85 or 90 specimens which will be furnished. The origin, occurrence, and economic uses of each mineral also will be studied. The work on minerals will be supplemented by a brief discussion of the rocks, their modes of formation, occurrence and classification. The course is intended for beginners and no previous geological training is required, but an understanding of a few of the fundamental principles of chemistry is highly desirable. The streak plate and the set of specimens will be furnished for a fee of \$3.50. A small hand lens and a specific gravity balance will be very useful and if possible should be procured by the student. The set of minerals becomes the property of the student, and will serve for future reference or as a nucleus for a collection. Mj. ASSISTANT PROFESSOR BROKAW.

6. Economic Geology.—This course, corresponding to course 2 in residence, is designed to give a general knowledge of the principles governing the formation and occurrence of the more important ores and non-metalliferous deposits, and of the conditions, commercial and otherwise, which limit their exploitation. It covers the study of (1) structural materials—including building stones, clays, limes, mortars, and cements; (2) fuels—including coal, petroleum, and natural gas; (3) principles controlling the deposition of metalliferous ores—including the nature and genesis of ores, the forms of ore bodies, and their relations to the structural features of the containing rocks, the formation of cavities in rocks, underground waters, their composition, circulation, etc.; (4) ores of metals—including iron, copper, lead, zinc, gold, and silver. No attempt is made to cover the entire field, but typical districts or occurrences are studied in each case. Incidentally it is hoped the student will learn how to study a district independently, and to that end he will be put in touch with the general literature of the subject. The student is expected to be familiar with the common rocks and minerals. Prerequisite: elementary chemistry and course 3, or a practical knowledge of geology gained by experience in mining, etc. Mj. DR. STEPHENSON.

XXI A. GEOGRAPHY

1. The Elements of Geography.¹—An introductory study of the earth; its physical features and the relations of land, air, and water to life—especially to human affairs. Mj. MISS LANIER.

2. Influence of Geography on American History.¹—A study of the geographic conditions which have influenced the course of American history; their importance as compared with one another, and with non-geographic factors. Mj. MISS LANIER.

SCHOOL OF EDUCATION

3. The Teaching of Geography in the Primary Grades.—This course, corresponding to course 1 in residence, is designed for teachers, supervisors, and principals. The main topics considered are: (1) home geography—a study of the products, industries, and physical aspects of the region in which the student is located; (2) foreign geography—a consideration of regions which best illustrate

¹ Not available during 1915-16.

the geographic control of cold (Greenland), heat and moisture (Amazon basin), drought (Arabia); (3) selection and adaptation of material best suited to the first four grades. Mj. ASSOCIATE PROFESSOR BABER AND MISS HENDERSON.

4. The Teaching of Geography in the Grammar Grades.—The aim of the course is to consider the principles underlying the selection and adaptation of material in continental geography for the grammar grades, through the study of Eurasia. The subjects treated are: (1) relief and its causes; (2) climate; (3) distribution of vegetable and animal life; (4) peoples and their industries. A detailed study is made of Europe, India, China, and Japan in these respects. Special emphasis is placed upon the educative value of modeling and the drawing of maps and type landscapes, and training in work of this kind is afforded in the course. Mj. ASSOCIATE PROFESSOR BABER AND MISS HENDERSON.

XXII. ZOÖLOGY

1. Introductory Zoölogy.—This course corresponds to course 1 in residence. The laboratory work includes (a) observations, dissections, and experiments upon unicellular animals (Amoeba and Paramoecium); (b) a higher invertebrate type such as the earthworm and crayfish; (c) a vertebrate type (the frog); (d) a study of embryology and of cell-division. A fee of \$5.00 will be charged for the materials furnished and the loan of slides. A compound microscope magnifying 400 diameters, a hand lens, and a set of dissecting instruments will be needed. The cost of instruments (exclusive of microscope and hand lends) need not exceed \$3.00. Mj. ASSOCIATE PROFESSOR NEWMAN.

2. Evolution and Heredity (Introductory Course).—The equivalent of course 5 in residence. The course gives an unprejudiced treatment of one of the central problems of biology and is intended to serve as an introduction to more advanced special work in zoölogy and other biological branches. Yet the general student will find the work absorbingly interesting if he is prepared to read widely and to form independent judgments as to the validity of arguments and evidence. Among the topics discussed are: (1) brief survey of animal groups in the order of increasing complexity; (2) the idea of a phylogenetic tree; (3) evidences of evolution from comparative anatomy, embryology, paleontology, and geographical distribution; (4) the ancestry of man; (5) the history of the evolution idea from the Greeks to Darwin; (6) Darwinism—a critical discussion; (7) post-Darwinian hypotheses as to the causes of evolution; (8) variation and heredity as prime factors of evolution; (9) variations: size, kind, causes; (10) the heritability of variations; (11) the physical basis of heredity; (12) Mendelian heredity; (13) the facts of inheritance in man; (14) eugenic aspects of evolution and heredity. Mj. ASSOCIATE PROFESSOR NEWMAN.

3. Genetics and Eugenics.—This course, corresponding to course 3 in residence, has no technical prerequisite, but it may advantageously follow course 2, since it treats fully certain aspects that could only be outlined in that course. Students are directed to the best and most recent literature on the subject available. Among the topics dealt with are: (1) the facts and factors of development; (2) the cellular basis of heredity; (3) the biology of sex and the mechanics of sex-determination; (4) the inheritance of acquired characters; (5) the most recent developments of mendelian heredity; (6) heredity of physical and mental traits in man; (7) the principles of eugenics; (8) parenthood and race culture; (9) eugenic programs; (10) eugenic legislation. Mj. ASSOCIATE PROFESSOR NEWMAN.

4. General Morphology and Natural History of the Invertebrates.—The two majors of this course correspond to courses 15 and 16 in residence.

A. Protozoa, Porifera, Coelenterata, Platyhelminthes, Nematelminthes, and Echinodermata.—An introduction to the study of invertebrate animals. The work includes laboratory study of the anatomy, physiology, and, as far as possible, of the life-history of typical forms, together with assigned reading. Special emphasis is laid on the economic importance of the animals considered. The

fundamental principles of comparative morphology are kept in view throughout the course. In addition to the study of the material furnished (about thirteen forms) the student will be expected to acquaint himself with some of the typical invertebrates of his own locality, and directions for the collection and determination of such forms will be given. The securing of the protozoa studied in the course is a part of the laboratory work, and since protozoa must be cultivated in infusions, which require from one to three or four weeks, the student should not delay registration until he is ready to begin work. Instructions for making infusions will be sent with the first lessons. Fee for material and loan of more difficult preparations, \$5.00. Mj.

B. *Mollusca, Annelida, and Arthropoda*.—Continues A, and completes the study of the invertebrates including the most interesting group, the insects. About twelve forms, including some especially prepared, are furnished. Dissection of the clam, snail, squid, earthworm, clam-worm, lobster, spider, grasshopper, and several other insects, and study of habits, physiology, and life-histories of these forms, are required. The fee for materials and the loan of the more difficult preparations, including slides illustrating adaptation among insects, is \$6.25. Mj.

DR. HYMAN.

5. **Vertebrate Zoölogy**.—An introduction to the study of the vertebrates and their relatives corresponding to course 17 in residence. The laboratory work includes dissection of the dogfish, turtle, and cat, and the preparation and study of the skeletons of several animals. Material with circulatory systems injected will be furnished and in addition the student must provide two or three easily obtainable forms. The work is strictly comparative, i.e., each system of organs is taken up and its progressive change from the lowest to the highest forms is followed. The cost of dissecting instruments and the books will be about \$15.00. Fee for materials, \$6.00. Prerequisite: course 1 or its equivalent. Mj. DR. HYMAN.

6. **Vertebrate Embryology**.—A course indispensable for the teacher of zoölogy, and fundamentally important to all who wish to understand the origin and development of the human structure. The study includes (a) laboratory work on the development of the chick and the pig, dissection of pig embryos and of a pregnant pig uterus; (b) assigned readings on the development and structure of the sexual cells, fertilization, early development of vertebrates, in general, and of the chick and mammals, including man, in particular; (c) formation of embryonic membranes; human membranes and placenta, later development of various systems, especially the nervous system, the alimentary canal, the circulatory system, and the urino-genital system. The student must provide, if possible, living chick embryos. A compound microscope, magnifying 200 diameters, a dissecting microscope (if not obtainable, a good hand lens may be substituted), and a few dissecting instruments are required. The fee for materials furnished is \$2.50 and the deposit for the loan of slides is \$10.00. Prerequisite: course 1 or its equivalent, and preferably vertebrate zoölogy. Mj. DR. HYMAN.

7. **Elementary Animal Ecology**.—Ecology treats of the relations of organisms to their environment; this relation shows itself in the reactions of the animals to the different environmental factors, such as light, temperature, moisture, etc., and the reactions in turn determine the distribution of the animals. In this elementary course in animal ecology the student will spend much of the time getting acquainted with the great variety of animal forms that exist in every locality. He will thus become familiar with the habits of the different species, will learn where and when to find them, and how to collect, preserve, and identify the animals of his own locality. He will be assisted by written directions, and outlines, and by the suggested readings and assistance in identifying preserved materials. The expense for books and apparatus will be between \$5.00 and \$10.00. (Semi-formal.) Mj. DR. WELLS.

8. **Economic Zoölogy**.—In this course the student is introduced to the different animal groups from the economic point of view. The collateral reading and formal lessons are planned so as to build upon previous morphological knowledge

of animals a knowledge of the importance of each group in the economy of man. Thus the animals that furnish food, that destroy crops, that carry and produce disease, etc., are taken up in turn. The course is arranged so that it may be adapted to the region in which the student lives and thus he may make a particular study of the economic forms in his own locality. This study will form an illustrative basis for the study of groups in other localities and countries. The methods of study will combine those of ecology, physiology, and general life-history work. Only students who have completed courses in the morphology of the invertebrates and the lower vertebrates will be admitted. The total expense for books and apparatus will be about \$10.00. The materials required will differ in individual cases. Mj. DR. WELLS.

9. Advanced Animal Ecology.—This course, which corresponds to course 52 in residence, is designed primarily for students who have taken courses in animal ecology in residence. It consists largely of definite systematic field work which may mean work on some ecological problem. All the animals of certain habitats will be studied in relation to each other and to the environmental conditions with which they come in contact. Simple analyses of environmental factors may be attempted in some cases. The student must consult the instructor before registering for the course. (Informal.) Mj. DR. WELLS.

XXIV. PHYSIOLOGY

1. Introductory Physiology.—The object is to develop an appreciation of the human body. This necessitates a knowledge of its structure and the work of its parts separately and as a whole. Knowledge of this kind is a necessary foundation for advanced study and should be the possession of every intelligent person for without it effective co-operation in the modern methods of healing and preventing disease, as practiced by physicians, is impossible. A further use of physiological facts is their application to methods employed to solve many social problems of today. To teachers such knowledge is especially valuable. It enables them to use and conserve the bodily powers both of themselves and of their pupils and to analyze intelligently deficiencies exhibited by their pupils and so make proper adjustments.

A. This is essentially a summary of the history of food in the body. In the *textbook work*, after stating the point of view from which the subject is to be attacked, the following topics are discussed: (1) life—theories advanced to explain its nature, conditions necessary for its existence; (2) protoplasm, cells, tissues, organs and their relations and, incidentally, the subject of "division of labor"; (3) blood—its structure, components, and use; (4) respiration; (5) digestion and digestive fluids; (6) secretion and absorption. In the *laboratory work*, which will require a microscope for a short time (two weeks or so), directions will be given for the study of (1) blood; (2) properties of foods; (3) the changes which food undergoes under the action of the various digestive fluids. Some knowledge of chemistry is essential. The requisite laboratory equipment and materials will be loaned for a deposit of \$15.00. Mj.

B. Continuing A, study is made of (1) how the blood with its acquired foods is distributed throughout the body (circulation); (2) how the lymph gets to the cells; (3) history of food in the body cells—fats, glycogen, muscle, nerve, the various tissues, their physiology and metabolism, are discussed; (4) excretion; (5) animal heat. Directions are given for making the necessary experiments to illustrate physiological methods and the physiology of the organs of circulation, muscle, and nerve. The requisite laboratory equipment will be loaned for a deposit of \$15.00. Mj.

C. Continuing B, study is made of the physiology of the brain, cord, and senses. The course aims also to give general acquaintance with the structure of the central nervous system. Known facts in its physiology are discussed and so far as possible the methods by which these facts have been ascertained are

explained. The main facts of the anatomy and physiology of the brain, eye, ear, and other sense organs are brought out through dissection for which full directions are furnished. Mj.

ASSISTANT PROFESSOR LINGLE.

NOTE.—The deposit for either A or B will be refunded when the set of apparatus is returned, less charges for breakage, expressage, and a loan fee of \$3.00.

XXVII. BOTANY

1. General Morphology of the Algae and Fungi.—This course consists of twelve exercises covering the ground of the laboratory work of the twelve weeks' course given at the University. The fifty types studied represent all the main groups of algae and fungi. In connection with a study of the structure, development, and relationships of the various forms, the principal problems considered are: (1) the evolution of the plant body, (2) the origin and evolution of sex, and (3) parasitism, saprophytism, and symbiosis. This is pre-eminently a course for beginners, but it is also adapted to the needs of teachers who, though acquainted with the older style of botany, desire an introduction to the more modern phases of the subject. The material in many of the types is sufficient for a class of eight or ten students. An additional fee of \$2.50 is charged for the material and the loan of preparations. The applicant must have access to a compound microscope with a low- and a high-power objective, the latter being a $\frac{1}{8}$, a $\frac{1}{6}$, or a $\frac{1}{4}$, preferably a $\frac{1}{8}$. Mj. PROFESSOR CHAMBERLAIN.

2. General Morphology of the Bryophytes and Pteridophytes.—A course similar to the one on algae and fungi, and requiring that course or its equivalent as a prerequisite. The structure, life-histories, and relationships of the liverworts, mosses, and ferns are studied in characteristic types. The principal problems considered are: (1) the evolution of the sporophyte, (2) the reduction of the gametophyte, (3) heterospory, (4) alternation of generations, and (5) an introduction to modern phases of vascular anatomy. As in course 1, a compound microscope and skilfully stained preparations, involving a knowledge of micro-technique, are needed. Arrangements have been made whereby a limited number may secure a loan of the necessary material and preparations for \$5.00. No one should register without consulting the instructor. Mj. PROFESSOR CHAMBERLAIN.

3. General Morphology of the Gymnosperms and Angiosperms.—A course similar to the two preceding courses, and requiring both of them (or their equivalent) as a prerequisite. Aside from a study of the structure and development of typical forms the most important features of this course are: a study of flora development, spermatogenesis, oögenesis, fertilization, embryology, karyokinesis and a brief survey of Engler's scheme of classification. A compound microscope is needed as in courses 1 and 2. No one should register without consulting the instructor. Fee for material and the loan of the more difficult preparations, \$5.00. Mj. PROFESSOR CHAMBERLAIN.

NOTE.—Courses 1, 2, and 3 are designed to give the student a comprehensive view of the structure, development, relationships, and problems of the plant kingdom. These courses form the necessary foundation for all advanced work, whether the advanced work be morphology, physiology, ecology, or taxonomy. They are required of all who make botany their major subject for the Bachelor's degree, and are required of all who make botany either a major or minor for any higher degree. The development of a clear, bold style of scientific drawing receives attention in all of these courses.

4. Elementary Plant Physiology.—This course corresponds to course 2 in residence. It aims to give the student a general knowledge of the life-processes of higher plants and is introductory to the advanced courses in the subject given in residence. The work will consist of experiments illustrating the different topics, together with assigned reading in a standard textbook. It is adequate to meet the needs of high-school teachers. For the experimental work little more apparatus will be needed than that found in the physical and chemical laboratories of the average high school. A list of required articles will be furnished on application. Reports of both reading and experiments will be called for and will be returned with corrections. Anyone registering should realize

that serious difficulties will be encountered unless some facilities for growing plants are at hand. This difficulty can be met by doing the work during the summer months. Mj. ASSOCIATE PROFESSOR CROCKER.

5. Elementary Plant Ecology.—This course covers essentially the same ground as Coulter's *Plant Relations*, and does not necessarily require previous botanical training though some work in plant analysis and in the study of plant structures is highly desirable. The object of the course is to present to the student the factors which influence the functions, form, and distribution of the common plants of his neighborhood. At first the different forms of leaves, stems, and roots are studied; then the plant is taken as a whole with respect to the advantages it possesses in the struggle for existence because of a particular structure—leaf, root, or stem. Under the subject of stems, the identification of the common trees is required. The work may be carried on chiefly out of doors, and no microscope is needed. Mj. DR. FULLER.

6. The Scientific Basis of Agriculture.—This is chiefly a reading course of general nature dealing with the main physiological factors influencing plant production. Several phases of the work will involve simple experiments which call for little apparatus. Some of the topics considered are: (1) soils as influencing plant growth and production; (2) seeds and germination of seeds of economic plants and weeds; (3) water relations of plants; (4) synthesis of foods and their uses in plants; (5) reproduction and fertilization and physiology of budding and grafting. In addition to the textbooks constant use will be made of various agricultural bulletins and other scientific pamphlets. In case the pamphlets cannot be obtained gratis they can be borrowed from the Correspondence-Study Department for a nominal fee. This course should be attempted only by persons having a fair general knowledge of botany. Mj. ASSOCIATE PROFESSOR CROCKER AND DR. ECKERSON.

7. Elementary Forestry.—The principal subjects covered by this course are: (1) the identification of trees by the use of keys and other helps; (2) the life-relations of trees, that is, trees as influenced by light, soil, temperature, wind, animals, and by the struggle for existence; (3) the composition and distribution of the forests of the United States, involving the making of distributional maps; (4) some economic aspects of forestry, namely the proper care and management of the forests, including plans for improvement cuttings, for reproduction, and for protection from fire. The object of the course is to impart an elementary general knowledge of forestry, including the forestry problems in the United States, and it is offered primarily to teachers in the belief that they can do much to influence public opinion in regard to one of the most important economic problems confronting the country. The course may be given entirely through lectures and textbooks, but whenever practicable such work will be supplemented by field exercises on some limited forested area selected by the student. As the instructor spends a considerable part of each summer in the northern woods beyond regular mail service the student should plan to do as much of the work as possible during the other seasons of the year. Mj. DR. HOWE.

8. Ecological Plant Anatomy.—This course is a continuation of course 5 and corresponds to course 30 in residence giving graduate credit. It involves a careful study of the absorptive, conductive, synthetic, protective, and storage tissues of plants in relation to their functions, with special attention to the variations of structure in so far as they depend upon changes in environment. Students electing this course should have a knowledge of elementary botany and be somewhat familiar with the use of the microscope. The student must have access to a good compound microscope, and if the work is to be done during the winter, access to a greenhouse is very desirable. Fee for materials and loan of slides, \$2.50. Mj. DR. FULLER.

9. Field Ecology.—This course is designed primarily for those students who have taken residence courses in ecology, and who desire to pursue further investigations along this line. The work consists very largely of systematic study in the field. A definite region or plant formation may be made the subject of study,

or some problem may be selected in the ecology of plant structure or behavior. (Informal.) Mj. PROFESSOR COWLES OR DR. FULLER.

10. Elementary Plant Anatomy.—A study of the tissues and tissue systems of vascular plants from the standpoint of phylogeny. This work is very different from the old anatomy in which facts were presented without any attempt to relate them to each other. The course deals with the morphology and evolution of the vascular system, and is based upon a comparative study of representative juvenile and adult forms of Pteridophytes, Gymnosperms, and Angiosperms. A microscope magnifying about four hundred diameters is necessary. An extensive knowledge of micro-technique is not essential. Directions for preparation of material and making of the necessary mounts will be given in the exercises. Fee for material and loan of slides, \$2.50. Mj. ASSOCIATE PROFESSOR LAND.

11. Methods in Plant Histology.—This course deals with the principles and methods of killing, fixing, imbedding, sectioning, staining, and mounting. The student must have access to a compound microscope magnifying at least four hundred diameters, a microtome, and some other apparatus and reagents. A fee of \$2.50 is charged for plant material which is not readily collected at all seasons. No one should register without consulting the instructor. Mj. ASSOCIATE PROFESSOR LAND.

SCHOOL OF EDUCATION

12. Teachers' Course in Botany.—This course treats of the leading facts and principles that are involved in presenting botany in secondary schools. The following are some of the topics considered: (1) the place of science, particularly botanical science, in secondary education; (2) a review of botanical material in order to establish a basis of consideration of other elements of the course; (3) study of types of plant life as found in the student's locality; (4) criticism of outlines that are recommended for courses in botany and related biological subjects; (5) outline of a course fitted to the local school needs and botanical environment; (6) consideration of laboratory and field work, apparatus and illustrative material; (7) teachers' helps—reference works, magazines, forestry and agricultural publications, maps, charts, and photographs; (8) reports upon special topics. This course is similar to course 21 in the School of Education (course 50 in the Department of Botany). Prerequisite: 3 majors in botany, or experience through teaching, or practical study. The student must consult the instructor before registering. Mj. PROFESSOR CALDWELL.

NOTE.—Related courses will be found under Departmental Number CXXII.

XXVIII. HYGIENE AND BACTERIOLOGY

ACADEMY

1. General Bacteriology and the Relation of Bacteria Yeasts and Molds to the Household, Dairy, Industries, and Agriculture.—This is primarily a culture course designed for those who do not wish to go to the expense of setting up a laboratory and will consist of: (1) simple experiments at home; (2) examination and description of sealed cultures; (3) writing of themes on assigned subjects; (4) selected readings. [This course commands admission credit only.] Mj. DR. HEINEMANN.

COLLEGE

2. Bacteriological Methods.—The following subjects will be covered: (1) principles of sterilization; (2) manipulation of the microscope; (3) rôle of bacteria; (4) methods of growing bacteria; (5) methods of staining bacteria; (6) description of bacteria; (7) bacteriology of water and milk. The applicant must have access to a compound microscope with a low-power and a high-power objective. If all the apparatus is purchased it will cost approximately twelve dollars exclusive of the microscope, but many of the parts can be extemporized. A complete set of the apparatus needed, packed ready for shipment, will be supplied for \$13.00. Course 1 is not prerequisite. Mj. DR. HEINEMANN.

3. Hygiene.—This is a reading course exclusively. The following subjects are covered: dissemination of disease, preventive measures; hygiene of food, water, and milk supplies; housing; ventilation; personal hygiene, etc. Pre-requisite: high-school chemistry, "Bacteriological Methods," and "Introductory Physiology A" or equivalent training. Mj. DR. HEINEMANN.

4. Advanced Bacteriology.—A series of courses designed for those interested in some particular branch of bacteriology, e.g., medical, sanitary, agricultural, etc.

A. *Yeasts, Molds, and Acetic Acid Bacteria.*—A course designed especially for those wishing to prepare themselves for the practical use of bacteriology in fermentation industries. The general methods of studying this class of micro-organisms are studied and practical work proposed. Mj.

B. *Water and Milk Analysis.*—This course covers the methods of practical water and milk analysis. The methods given are those in use at health and private laboratories, and, though not complete for research, give the student an idea of how research may be prosecuted after these subjects have been mastered. Mj.

C. *Bacteriological Examination of Soil.*—An elementary course in soil bacteriology, giving the methods now in vogue for investigation of soil conditions. Some knowledge of chemistry is required. Mj.

DR. HEINEMANN.

CXXII. NATURAL SCIENCE

1. Elementary Natural Science.—This course is based largely on out-of-door observations and experiences and is intended primarily as an introduction to the interpretation of the common nature materials and phenomena of the home region with special reference to their use in the elementary schools. It corresponds to course 1 in residence and embraces some six of the following topics: (1) common birds of the locality and their relation to agriculture; (2) life-histories of some insects and their economic importance; (3) identification of other animals of the region, their habits and habitats; (4) the domestic animals with a study of their history, breeding, and the laws of heredity involved; (5) the trees and shrubs and a brief sketch of the problem of forestry; (6) seeds and seedlings together with the elementary principles of seed selection and the physiology of growth; (7) the spore-bearers and the problem of community health involved in the life-histories of some of the tiniest of them; (8) the plant societies of the region with discussion of the factors involved in their location, limits, and relations. Topographic maps, areal maps, and soil maps of the State or United States Geological Survey will be used whenever available. Unidentified material should be collected and forwarded for identification. Students are advised not to register for this course during the Winter Quarter. Mj. ASSOCIATE PROFESSOR DOWNING.

2. Regional Studies.—The work of this course will be directed toward a study of the region, considered as a whole, which lies within convenient reach of the student. It corresponds to course 3 in residence and involves a study of: (1) the physical subdivisions of the area as well as a study of the causes which have given rise to these subdivisions; (2) the physiographic history of the area, its genesis and development; (3) the present content of plant life with reference to the factors which have influenced its entrance, development, and distribution in the area; (4) the present content of animal life, including the factors which have influenced its entrance, development, and distribution in the area. The work presupposes at least high-school courses in physical geography, botany, or zoölogy. Mj. ASSOCIATE PROFESSOR DOWNING.

3. School Gardening and Elementary Agriculture.¹—The course is intended to include a study of the elementary principles of agriculture necessary to relate the activities of the school to the agricultural life of the country. These activities naturally center about the school garden; hence these studies include reading

¹ May be available in the spring of 1916.

and experimental work on such topics as (1) the planning and planting of the school and home grounds; (2) the place of the school garden, how it should be planned and related to the other departments of the school; (3) the best trees for school and home grounds and how they should be planted; (4) the best plants for the school garden and the best methods of culture; (5) propagation from seeds, cuttings, and bulbs, in window boxes, hotbeds, and out of doors; (6) plant-breeding, its scope and results; (7) weeds, their identification and control; (8) window gardening in the school and home; (9) plant-diseases and insect-enemies, their recognition and control; (10) soils, their physical and chemical nature; (11) fertilizers, their composition and use; (12) special problems in agriculture peculiar to the locality which need recognition and discussion in the school. The exercises are of such a nature that they make use of the material which may be available in any particular locality, while suggestions will be offered and assistance given in the study of local problems. Mj.

CL. SCHOOL-LIBRARY ECONOMICS

1. Literature for Children.—This course is designed for teachers, librarians, parents, social workers, and writers for children. It aims (1) to give a survey of the field of literature for children; (2) to get at the principles underlying the selection of such literature; (3) to deal concretely and practically with certain problems of selection. It attempts to organize and to give new meaning to the mass of literature already read by the student as well as to direct his study along new lines. The course is equivalent to course 31 in residence and deals with the following topics: (1) the young child and the book; (2) the adolescent and the book; (3) institutional factors, as: relation between school and library, Sunday school, the home; (4) the psychology and the hygiene of reading; (5) tested and graded lists of books through the twelve grades of school; (6) historical survey of books for children in America; (7) influence of England, France, and Germany on literature for children; (8) qualities and form, as: simplicity of plot, rapidity of style, narration, drama, etc.; (9) selected classics as literature for children: *Iliad*, *Odyssey*, *Nibelungenlied*, *Morte D'Arthur*, Aesop's *Fables*, *Arabian Nights*, Shakspeare's *Plays*, *Robinson Crusoe*, *Pilgrim's Progress*, *Gulliver's Travels*, *Alice in Wonderland*; (10) *Mother Goose*, the fairy tale, the ballad; (11) poetry for the young—principles of selection; (12) oral interpretation and reading of literature; (13) the Bible; (14) notable fiction; (15) scientific books—the book as a tool; (16) dramatic instinct—Shakspeare for the young; (17) illustrated books for children. The books used in the course are to be found in ordinary public libraries; the pamphlets and lists can be procured at small cost. A few reproduced pages from old and rare children's books will be furnished. For those interested in building up a children's library both the most expensive and also the cheaper editions will be indicated. Mj. Miss BLACK.

LIBRARY SCIENCE

1. Technical Methods of Library Science.—This is an elementary course designed especially for those who are already in library positions, and are unable to leave for resident study. It deals chiefly with cataloguing and classification, with a few general lessons on accessioning, shelf-listing, book-binding, gift work, periodicals, and loan systems. It is felt that no library training can be complete without personal familiarity with the "tools" of the profession and modern methods of work. Hence it is hoped that students taking this course will find it possible later on to supplement the work thus begun by resident study at some library school. While credit is not given for correspondence courses in any such school, familiarity with library methods will make residence work easier for the student. As preparation for this course two years of college training or its equivalent is required. Practical experience in library work will count much in the applicant's favor. The course consists of twenty-four lessons. Mj. Miss ROBERTSON.

CLV. AESTHETIC AND INDUSTRIAL EDUCATION

1. Elementary Drawing and Painting.—All teachers would like to be able to draw. Most teachers in the elementary schools are expected to teach drawing. This course aims to present the subject of drawing and painting in such a way that at its completion the student will understand how to teach drawing to children and will also have some dexterity in the art. The degree of skill attained in both will depend somewhat upon natural ability and previous training but neither is demanded by this course. The work is arranged under the following heads: (1) illustrative sketching and drawing; (2) object-drawing; (3) nature-drawing; (4) figure-drawing; (5) animal-drawing; (6) picture-study and outdoor sketching. The course discusses the place of drawing in the elementary schools, its relation to other subjects, suitable problems for the various grades and methods of presentation. When completed it gives an illustrated course in drawing and painting for elementary schools. Mj. MISS WHITTIER.

2. Elementary Design.—All teachers want to know "How" and "When" to present a subject. All students desire to know "Why" a subject is presented. This course aims to answer the "How," "When," and "Why" of teaching design in the elementary schools. It is planned to meet the needs of kindergartners, grade teachers, art teachers, and all who wish a good working foundation in design. It discusses suitable problems and presents methods of teaching design to children in the elementary schools. It is not primarily a technical course, and previous knowledge of the subject is not essential. The work is presented in the following five groups: (1) printing; (2) units of design; (3) borders and surfaces; (4) color; (5) structure. The number of lessons in each group will vary according to the student's expressed needs, that is the emphasis may be upon methods of teaching, technique, or the history of design. When finished it gives a complete and fully illustrated graded course in elementary or introductory design. Mj. MISS WHITTIER.

3. Illustration.—A course planned for kindergartners and primary teachers. It includes a study of the following topics: (1) illustrations in children's books; (2) illustrations for familiar stories; (3) pictorial composition; (4) blackboard sketching. The technical work gives sufficient practice in drawing to enable the student to make simple illustrations. Mj. MISS WHITTIER AND MISS CLARK.

4. Structural Design.—A course planned to meet the needs of all interested in the following subjects: cardboard and paper construction; woodwork; metal work; clay work; textiles. The emphasis is upon the structural side but a minimum amount of decorative design is discussed. Prerequisite: course 2 or its equivalent. Mj. MISS WHITTIER AND MISS CLARK.

5. Costume Design.—This course is planned for upper-grade and high-school work and gives a good working knowledge of the fine qualities in raiment which express in best terms the superior mental and physical character of individuals. It establishes standards for judging and presenting the principles underlying drawing, structural design and color in their direct and corrective application to costume. It discusses the place and contribution of the subject to the individual, the problem of fashion, and historic types, using these as contributive material to originality of conception. The technical work includes sufficient practice in drawing for the expression of ideas and to help graphic memory. Mj. MISS WHITTIER AND MISS CLARK.

6. Household Design.—This course presents the subject by means of theory and practice simplified to meet the problem of the average citizen of average income and undertakes to stimulate and develop super-average aesthetic comprehension and power. It presents the principles underlying the use of color, and of structural and decorative design, and calls for sufficient illustration to insure a clear understanding of the basis for judgment. It discusses practical and aesthetic values regarding the home, exterior and interior, and, in a general way, civic environment and historic types. Teachers interested in upper-grade and high-school drawing should consider the possibilities for broader interpretation

and application to life needs in the subject of Household Design. The technical work includes sufficient practice in drawing and construction to enable the student to record ideas. M_J. MISS WHITTIER AND MISS CLARK.

NOTE.—Related courses will be found under Departmental Nos. I, IB, and VIA.

DRAWING

An introductory course—Freehand Drawing—and three series of courses: A. Mechanical Drawing, B. Architectural Drawing, C. Descriptive Geometry afford opportunity to begin the study of drawing, and to continue it to a point where knowledge of higher mathematics—e.g., calculus, mechanics, etc.—conditions further progress. "Freehand Drawing" with any one of the series offers what is usually done in the first two years in the best technological schools. While open to anyone they will appeal especially to those who wish thorough training in the fundamentals of the science, whether for immediate practical purposes in the office, shop, or classroom, or as a preparation for Mechanical, Electrical, and Civil Engineering, or for Architectural Drawing.

One may take any major in any one of the three series for which he is prepared, though in most cases it will be found advisable, if not necessary, to begin with the first major. Admission to any major except the first one of a series is conditioned upon the approval of the instructor, who will base his decision upon a statement and exhibit of previous work. The University reserves the right to retain one drawing from the student's set in each major, and to determine whether admission or college credit shall be allowed.

The materials required in any major will be sent, express collect, upon receipt of the amount given, which is the lowest that can be quoted for a good quality. The weight of the case and the price of the textbook will enable the student to determine the exact cost of each major.

Material required in "Freehand Drawing."—Six sheets of Whatman's cold-pressed paper, 22×30 inches; 8 sheets of chalk-talk paper, 14×20 inches; 3 Koh-i-noor pencils, 3H; 1 pencil eraser, No. 211; 1 dozen thumb tacks, steel-stamped, $\frac{3}{8}$ inch diameter; 1 box of French charcoal; 1 bottle of fixatif, two-ounce; 1 tin atomizer; 1 box "Star" chalks, six assorted colors; 1 drawing-board, 18×24 inches; and models of different solids.

Material required in courses A 1, 2, 3, 4, 5; B 2, 3, 4, 5; and C 1, 2, 3, 4.—One drawing-board, 18×24 inches; 1 set, drawing instruments in folding pocketbook style case, No. 422; 1 T-square, mahogany, ebony-lined fixed head, 24 inches; 1 amber triangle, 45°, 8 inches; 1 amber triangle, 30°×60°, 10 inches; 1 triangular boxwood rule, architect's 12 inches; 1 flat boxwood scale, 6 inches, divided $\frac{1}{16}$ and $\frac{1}{8}$; 1 French amber curve, No. 1; 1 dozen sheets of Whatman's hot-pressed paper, 22×30 inches; 6 Koh-i-noor pencils, assorted, 3H and 6H; 1 bottle each of Higgins' carmine, black, and blue ink; 1 dozen thumb tacks, steel-stamped, $\frac{3}{8}$ inch diameter; 1 Faber's pencil-eraser, No. 211; 1 Faber's ink-eraser, No. 2604; 1 Hardtmuth's soft pliable rubber, No. 12; 1 file, 4 inches; 1 pen-holder; 3 ball-pointed pens.

Freehand Drawing.—A course preparatory to each of the series described below except the second, in which it is required. It gives that thorough training of the eye and hand which is so necessary in all work requiring accuracy in observation and measurement. While this is primarily its purpose, the course offers the work required in most of the public schools of the country preparatory to teaching Freehand Drawing. Although it does not deal with the pedagogy of the subject it provides a practical and pedagogically correct working basis in this subject, and can be recommended, therefore, to all grade teachers, and to others who are expected to teach Freehand Drawing in connection with their special work. The course embraces the following divisions: (a) *Freehand Projection*—to familiarize the student with the various views of an object and their proper arrangement upon the sheet, by which all the facts of size, form, and proportion are shown, together with perspective sketches of the object, 6 drawings; (b) *Model Drawing of Type-Forms*—outline sketching in perspective, of the cube,

cylinder, and other geometrical solids, introducing the principles of perspective as applied to small objects, 6 drawings; (c) *Model Drawing, Groups*—outline drawings of solids and other objects to teach composition and perspective, 6 drawings; (d) *Light and Shade*—pencil studies of the type solids and original groups of objects, to give practice in obtaining quick effects in black and white, 6 drawings; (e) *Color Work*—color studies with chalks, to teach an appreciation of surface, texture, and the proper juxtaposition of colors as applied to groups of objects, 6 drawings; (f) *Pen and Ink Studies* of single objects and original groups, involving outline, light and shade, texture, surface, etc., 6 drawings; in all 36 drawings. No textbook is required. Cost of materials ready for shipment, \$3.00; weight of package, 18 pounds. Mj. MR. FERSON.

A. Mechanical Drawing.—

1. *Projective Geometry*.—(a) Preparatory work: this will include the use of instruments, laying out, penciling, inking-in, lettering; with practice work to learn accuracy of measurement and of line, 3 drawings. (b) Graphic geometry; this is intended to give the student a mastery of the various geometrical constructions which form the basis of all work in projection, descriptive geometry, and constructive drawing, whether mechanical or architectural, and at the same time to give facility in the use of the instruments, 6 drawings. (c) Projection: this will include the projection of points, lines, planes, and solids, 6 drawings; in all, 15 drawings. Textbook: Linus Faunce's *Mechanical Drawing*, \$1.25 net. Cost of materials ready for shipment, \$15.00; weight of package, 18 pounds. Mj. MR. FERSON.

2. *Constructive Drawing*.—(a) Intersections, including conic sections, oblique sections, intersections, and developments, 6 drawings. (b) Shadows: the first angle projection of shadows, 3 drawings. (c) Isometric projections with projections of shadow, 3 drawings. (d) Oblique or cabinet projection, 3 drawings; in all, 15 drawings. Textbook and equipment for this course same as for A 1. Prerequisite: course A 1. Mj. MR. FERSON.

3. *Machine Details*.—This course is intended to familiarize the student with the various parts of machines that have come to be recognized as standards, and which are used in the construction of new machines. Standard sections for materials, fastenings, couplings, bearings, engine details, etc., 10 drawings. Textbook: Low and Bevis' *Manual of Machine Drawing and Design*, \$2.50 net. The equipment for A 1 will suffice for this course also. Prerequisite: course A 2. Mj. MR. FERSON.

4. *Gear Construction*.—Spur-gears, bevel, spiral, worm, elliptic, involute and cycloid teeth, hubs, arms, rims, etc., 10 drawings. Textbook: George B. Grant's *Teeth of Gears*, \$1.10 net; equipment, same as for A 1. Prerequisite: course A 3. Mj. MR. FERSON.

5. *Shop Drawing*.—(a) Machines from freehand sketches and measurement—details and an assembled drawing of some piece of machinery; (b) tracing and blue-printing. Five drawings with their tracings and blueprints will be accepted for this course; in all, 15 sheets. No textbook is required; equipment, same as for A 1. Prerequisite: course A 4. Mj. MR. FERSON.

B. Architectural Drawing.—This series gives the student a good working knowledge of the essentials in architecture; history, the orders, the principles of the designing of dwelling-houses, office work in rendering, perspective, and detailing, together with tracing and blue-printing. As the success of the student in architecture is so completely dependent upon his knowledge of, and practice in, all the departments of freehand drawing and sketching, it is absolutely essential that the introductory major, "Freehand Drawing," should be taken first, so it is made the first major of the series.

1. *Freehand Drawing*.—Mj. MR. FERSON.

2. *Projective Geometry*.—Same as A 1. Mj. MR. FERSON.

3. *Constructive Drawing*.—Same as A 2. Mj. MR. FERSON.

4. *Architectural Details*.—(a) "The Orders," 10 drawings; (b) details of architectural construction from measurements, 2 drawings; in all, 12 drawings. Textbooks: Hamlin's *Architectural History*, \$1.75 net; and Ware's *American Vignola*, Part I, "The Orders," \$2.50 net. Equipment for this course, same as for A 1. Prerequisite: course B 3. Mj. MR. FERSON.

5. *Architectural Design*.—(a) Domestic plans, from copy, 4 drawings; (b) design of some small building, 4 drawings; (c) tracings and blueprints, 4 tracings with their prints, 8 sheets; in all, 16 drawings. No textbook is required. Equipment, same as for A 1. Prerequisite: course B 4. Mj. MR. FERSON.

6. *Pictorial Architecture*.—(a) Architectural perspective, 3 drawings; (b) architectural rendering in pen and ink, 4 drawings; (c) rendering in color and wash, 4 drawings; in all, 11 drawings. Textbooks to be designated. Equipment, same as for A 1. (In preparation.) Prerequisite: course B 5. Mj. MR. FERSON.

C. *Descriptive Geometry*.—This series is for those who wish to go into the higher mathematics, but have had no training in the graphic side of the subject. It will consist of:

1. *Projective Geometry*.—Same as A 1. Mj. MR. FERSON.

2. *Constructive Drawing*.—Same as A 2. Mj. MR. FERSON.

3. *Theoretical Graphics*.—Problems in points, lines, planes, and straight-surfaced solids; 15 drawings. Textbook: Church's *Descriptive Geometry*, \$2.50 net; equipment, same as for A 1. Mj. MR. FERSON.

4. *Practical Graphics*.—Curved and warped surfaces, shades and shadows, developments; 15 drawings. Textbook: same as for C 3; equipment, same as for A 1. Mj. MR. FERSON.

VII. COMPARATIVE RELIGION

1. *Introduction to the History of Religion*.—This course is elementary in character and aims to conduct the student into the study of the general principles of religion and to outline the history of the various religions of the world, Mj. ASSISTANT PROFESSOR CONARD.

2. *The Religion of Uncivilized Peoples*.—This course surveys primitive religious customs and beliefs, noting their survivals in higher religions. The first part of the course consists of a general study of the religion of uncivilized peoples. In the second part a special study is made of the religion of the North American Indians, or of some other uncivilized people, concerning whom material is available to the student. Mj. ASSISTANT PROFESSOR CONARD.

3. *The Evolution of the Idea of God*.—This is a cursory study of the idea of God as seen in primitive myth and cult, and in the religious rites and literature of the chief historic religions. Prerequisite: course 1 or 2 or an equivalent. Mj. ASSISTANT PROFESSOR CONARD.

4. *The History of Prayer*.¹—A study of the evolution of prayer with particular reference to the ethical ideals and the conception of God expressed and implied in prayers. The material for study will be taken from various religions, including Christianity past and present. Prerequisite: course 1 or 2 or an equivalent. Mj. ASSISTANT PROFESSOR CONARD.

5. *The Religions of India*.—The aim of this course is to give a brief outline of the mythology and religion of the Vedas and an account of the three great Hindu religions—Brahmanism, Buddhism, and Hinduism. A knowledge of these is absolutely essential to the student of comparative religion. Mj. ASSISTANT PROFESSOR CLARK.

¹ Registrations accepted after September 1.

XLI. OLD TESTAMENT LITERATURE AND INTERPRETATION

AND

VIII. ORIENTAL LANGUAGES AND LITERATURES

1. An Introduction to the Old Testament.—This study emphasizes such points as will familiarize one with the outline features of the books of the Old Testament. It describes: (1) The means adopted to preserve the ancient records; (2) the method of compiling and editing those documents; (3) the historical background of the Old Testament books; (4) the literary character of each book; (5) its chief doctrinal teachings; (6) its place in the scheme of biblical revelation; and (7) the best literature with which to pursue and solve its problems. The work is planned on a practical basis, and aims to give students a reasonably complete idea of the new and real advances that have been made in the last few decades in the understanding of the Old Testament. Mj. PROFESSOR PRICE.

2. Outline of Hebrew History.—A survey study of the history of the Hebrew people as presented in the Old Testament from the period of the conquest and establishment in Canaan to the Maccabean struggle and the close of Old Testament history. The course embraces a preliminary sketch of the patriarchal period, with a more detailed study of the conquest, the period of the Judges, the united and divided kingdoms, the exile, the revival of Judah, and the beginnings of Judaism. The bearings of prophetic activity upon the history and literature also receive consideration. Mj. MR. HENRY.

3. Old Testament Prophecy.—The purpose of this course is to aid in securing a better understanding of the rise and development of prophecy in Israel. Some of the more important matters to be considered are: (1) the controlling ideas in the teaching of each of the great prophets; (2) the relation of the prophet and his work to the political and social movements of his day; (3) the attitude of the prophet toward the priest and priestly institutions; (4) the place of prophecy in the preparation for the work of Christ. Mj. MR. HENRY.

4. Old Testament Worship.—A study of the element of worship and the institutions and literature connected with worship in the Old Testament. Special consideration will be given to such topics as: (1) the priest; (2) place of worship; (3) sacrifice; (4) feasts; (5) tithes; (6) clean and unclean, etc.; (7) the origin and character of the Sabbath; (8) the date and character of Deuteronomy; (9) the origin of the Levitical legislation; (10) the composition of the Hexateuch. Attention will be given to the characteristic ideas of the priest as distinguished from those of the prophet, and to the growth of priestly influence in Israel's religious life. Mj. MR. HENRY.

5. Elementary Hebrew.—Includes the mastery of the Hebrew of Genesis, chaps. 1-3; the study of the most important principles of the language in connection with these chapters; Hebrew grammar, including the strong verb and seven classes of weak verbs; and the acquisition of a vocabulary of four hundred words. Mj. MR. HENRY.

6. Intermediate Hebrew.—Includes the critical study of Genesis, chaps. 4-8, with a review of Genesis, chaps. 1-3; the more rapid reading of fourteen chapters in I Samuel, Ruth, and Jonah; the completion of the outlines of Hebrew grammar and an increase of vocabulary to eight hundred words. Mj. MR. HENRY.

7. Exodus and Hebrew Grammar.—Includes the critical study and translation of Exodus, chaps. 1-24; a more detailed study of Hebrew grammar; an inductive study of Hebrew syntax; and the memorizing of three hundred additional words and of several familiar psalms in Hebrew. Mj. MR. HENRY.

8. Haggai, Zechariah, and Malachi.—A course of twenty recitations, including the critical and exegetical study of these books; the lexicographical study of two hundred important words; the principles of Hebrew prophecy; a study of Hebrew syntax, especially the subjects of the tense and sentence; the Hebrew accentuation; and the memorizing of about eight hundred words. M. MR. HENRY.

9. Elementary Arabic.—An inductive study of the elementary principles of Arabic grammar. The Arabic grammar of Socin together with the exercises and stories contained therein furnish the basis of the work. Mj. ASSISTANT PROFESSOR LUCKENBILL.

10. Advanced Arabic.—Three majors of advanced work may be taken in the following order:

A. *Selected Suras of the Koran.*—Mj.

B. *Historical Prose.*—Mj.

C. *Arabic Fables.*—Mj.

ASSISTANT PROFESSOR LUCKENBILL.

11. Elementary Assyrian.—The cuneiform text as well as the transliteration is used from the beginning. The student learns the most common cuneiform signs, the strong verb and all classes of weak verbs, and the fundamental principles of the language. A knowledge of Hebrew is prerequisite. M. PROFESSOR BERRY.

12. Intermediate Assyrian.—This includes the reading of several hundred lines of historical cuneiform text, with special attention to vocabulary, a further study of Assyrian grammar, including syntax, and the learning of most of the remaining cuneiform signs that are in frequent use. M. PROFESSOR BERRY.

13. Elementary Egyptian.—Study of (1) the speech of Thutmosis I to the priests of Abydos; (2) the romance of Sinuhe (transliterated from the Hieratic) in Erman's *Chrestomathy*. It includes the acquisition of the commonest signs, and the grammatical principles of the language of the classic period. Mj. PROFESSOR BREASTED.

14. Elementary Russian.—

A. After a general study of the declensions and conjugations, texts supplied with extensive notes will be taken up and mastered. Mj.

B. Continues the study of texts with review of inflectional forms. The vocabulary will be enlarged by the study of roots and suffixes. Elementary composition. Extensive syntax study. Mj.

ASSISTANT PROFESSOR HARPER.

Members of these Departments will endeavor to arrange informal courses for students who are prepared to do work of an advanced nature, whenever practicable.

NOTE.—Related courses will be found under Departmental Nos. IV, VII, XVI.

XLII. NEW TESTAMENT AND EARLY CHRISTIAN LITERATURE

1. Jewish History in the Time of Jesus.—The Jewish people in the Roman Empire; geography, population, and languages of Palestine; influence of Hellenism; political events and parties; industrial, social, and intellectual life; religious groups and institutions; moral and religious ideas—an introduction to the study of the life and teaching of Jesus. This course corresponds in general to course 1 in residence, which is required of candidates for the D.B. degree. Mj. ASSOCIATE PROFESSOR VOTAW.

2. Life of Jesus.—A comprehensive and systematic historical study of Jesus' purpose, method, message, deeds, and personality, in general aspects. The forty lessons include such topics as: the characteristics of the gospels as historical sources, Jewish messianism, Jesus' aim and method in His ministry, the parables, the miracles, the Christology of the gospels, and the historical significance of Jesus. The course constitutes an introduction to the study of the teaching of Jesus. A knowledge of New Testament Greek is not required, but is valuable. To accommodate two well-defined types of students the course is presented in two grades; in its simple form it corresponds in general to the college course New Testament 106; in its advanced form to the graduate course New Testament 5. Mj. ASSOCIATE PROFESSOR VOTAW.

3. The Teaching of Jesus.—The four gospels will be investigated as to their origin, characteristics, trustworthiness, and the manner of their use for ascertaining the teaching of Jesus. The chief ideas and characteristics of Judaism in Jesus' day will be studied as the historical background to his teaching; also the development of Jesus' own religious experience and ideas, and the aim, limits, style, and method of his teaching. Then will follow topically a comprehensive, careful study of the content of Jesus' teaching. Mj. ASSOCIATE PROFESSOR VOTAW.

4. History of the Apostolic Age.—This course, corresponding to course 8 in residence, covers the history of Christianity from Jesus' death to the end of the first century. Among the more important topics studied are: (1) the experiences of the primitive Christians at Jerusalem; (2) the beginnings of missions; (3) the relations between Judaism and Christianity; (4) the missionary work of Paul; (5) Christianity's contact with the religions of the Greco-Roman world; (6) the growth of church ritual and organization; (7) the origin and content of early Christian doctrines; (8) the rise of Christian literature. Mj. PROFESSOR CASE.

5. Introduction to the Books of the New Testament.—

A. *Life of the Apostle Paul and Introduction to the Pauline Epistles.*—The work in this course is done on the basis of a handbook, containing an outline of the life of Paul, topics for special study, with references to literature, and a brief introduction to the epistles. The aim is to prepare the student for the interpretation of the letters of Paul and for an understanding of his personality and theology. Mj.

B. *Introduction to the Gospels, Acts, and General Epistles.*—Includes the study of the occasion and purpose of each book and its general content and structure. Mj.

PROFESSOR BURTON AND ASSISTANT PROFESSOR SEVERN.

6. The Ethical Teaching of the New Testament.—The moral ideal of Jesus is to be studied on the basis of the Sermon on the Mount, supplemented by material from other portions of the gospels. The specific principles set forth by Jesus, and the application which he made of them to his own life and to the conduct of others, will be interpreted. Similarly, the moral ideal of Paul, with its principles and applications, will be considered. Finally, there is a comparison and summary of the whole ethical teaching of the New Testament. Mj. ASSOCIATE PROFESSOR VOTAW.

7. Elementary New Testament Greek.—A course for beginners, presupposing no knowledge of Greek. It aims to secure, by an inductive study, the absolute mastery of chaps. 1-4 of the Gospel of John, and the essential facts and principles of the language. Emphasis is placed upon the writing of exercises in Greek. Mj. ASSISTANT PROFESSOR SEVERN.

8. Intermediate New Testament Greek.—This course is designed for those who have completed course 7, and for those who wish to review their Greek in connection with the New Testament. It comprises the thorough study of the entire Gospel of John, and the reading at sight of the First Epistle of John; also the acquisition of vocabulary and the most general principles of grammar. One who has diligently worked through this course should be able, with the aid of the lexicon, to read the New Testament with comparative ease. Mj. ASSISTANT PROFESSOR SEVERN.

9. The Greek of the New Testament.—Using the Gospel of Mark, a thorough study is made of the syntax of New Testament Greek. The course corresponds to course 41 in residence and is recommended for the D.B. degree. Prerequisite: courses 7 and 8 or equivalent instruction in classical Greek. Mj. ASSOCIATE PROFESSOR VOTAW.

10. The Apostolic Fathers.—The course includes a study of (1) the early Christian literature ca. 95-150 A.D.; (2) problems of date, authorship, and purpose; (3) reading of the Greek; and (4) studies in theology and polity. Outlines of the literature will be provided, and reports covering the topics given

above will be required. The later development of New Testament ideas and practices, as reflected in this early Christian literature, will be especially emphasized. **Mj. PROFESSOR GOODSPEED AND ASSISTANT PROFESSOR SEVERN.**

ENGLISH THEOLOGICAL SEMINARY

3B. New Testament Times in Palestine.—(Cf. p. 74.)

XLIV. SYSTEMATIC THEOLOGY

1. Outline Course in Systematic Theology.—The course is intended to give a general acquaintance with the field of systematic theology, with especial reference to the problems which are today attracting chief attention. The first half of the course is devoted to a general introduction to the subject; the second half to the content of systematic theology. The contents of textbooks prescribed are to be carefully analyzed and criticized on the basis of questions and topics furnished by the instructor. This study is of real value as a general survey, but does not command credit for the D.B. degree. **Mj. PROFESSOR G. B. SMITH.**

2. Systematic Theology.—

A. This course discusses the task and method of systematic theology in the light of modern conditions, and sets forth the Christian doctrine of God. It will be accepted as the equivalent of the first prescribed course (Systematic Theology I) for the D.B. degree. **Mj.**

B. This course covers the doctrines of sin and salvation, and the person and work of Christ. It will be accepted as the equivalent of the second prescribed course (Systematic Theology II) for the D.B. degree. **Mj.**

C. This course deals with the religious and ethical implications of the Christian experience, including a study of regeneration, of the Christian life and the Christian hope. It will be accepted as the equivalent of the third prescribed course (Systematic Theology III) for the D.B. degree. **Mj.**

PROFESSOR G. B. SMITH.

3. Christian Ethics.—This course sets forth the moral aspects of the Christian religious experience. The Christian moral ideal is differentiated from the naturalistic theories of ethics set forth by the Greek philosophers and by modern utilitarian and evolutionist schools, and from the theory of supernatural legalism as exhibited in Judaism. The ethical ideal of Jesus is carefully studied with suggestions as to the method of determining duty in the various fields of human activity. An analysis of the important social problems of today serves to call attention to the field of constructive Christian activity. **Mj. PROFESSOR G. B. SMITH.**

4. Apologetics.—This course is intended to acquaint the student with the general outlines of a defense of Christianity. In the first place the content of Christianity which must be defended is sought on the basis of a historical study of the sources and history of Christianity. The ultimate elements of Christian faith are then defined and justified in the light of modern thought. Questions and topics suggested by the required textbooks are to be discussed in written papers by the student. Prerequisite: course 2 or an equivalent. **Mj. PROFESSOR G. B. SMITH.**

5. The Theological Significance of Leading Movements of Thought in the Nineteenth Century.—The philosophy of Kant and of Hegel, the theological principles of Schleiermacher and of Ritschl, the development of biblical criticism, the growing influence of natural science, the rise of the philosophy of evolution, and the significance of the Pragmatist movement, for an understanding of religion, are the chief topics for study. The problems raised for theology by these movements will be carefully considered. Those taking the course should have access to an adequate library, or should be willing to incur considerable expense for

books. Prerequisite: course 4, or its equivalent and a general acquaintance with the history of modern philosophy. (Informal.) DMj. PROFESSOR G. B. SMITH.

NOTE.—Related courses will be found under Departmental Nos. I, IA, VI, and VII.

ENGLISH THEOLOGICAL SEMINARY

4B. Outline of Systematic Theology.—(Cf. p. 74.)

XLV. CHURCH HISTORY

1. Outlines of Church History.—A complete survey of the whole field of church history from the founding of the church in Jerusalem to the present time, with special emphasis upon the Ancient (100–800 A.D.) and Reformation (1517–1648 A.D.) periods. Some of the most important subjects that will come under investigation are: the conflict of the church with heathenism in the Roman Empire; the rise and growth of the papacy; heresies, controversies, and parties within the church; the missionary expansion of the western church; the struggle between the papacy and the empire for supremacy; the rise and progress of the Reformation in Germany, France, Switzerland, England, and Scotland; and the recent development of the Protestant churches in Europe and America. Mj. ASSISTANT PROFESSOR GATES.

2. The Protestant Reformation.—Extent and state of Christendom at the opening of the sixteenth century; new forces that sweep away the old order of things; Zwingli, Luther, Calvin, as expressions of the spirit of the new era; estimate of the movement in its relations to the general historic process. Mj. ASSOCIATE PROFESSOR MONCRIEF.

The Church and the Roman Empire.—(Cf. description under History 14.) Mj. ASSISTANT PROFESSOR WALKER.

The Church and the Barbarians.—(Cf. description under History 15.) Mj. ASSISTANT PROFESSOR WALKER.

XLVI. PRACTICAL THEOLOGY

1. The Theory of Preaching.—This course corresponds to residence course 1 and embraces a study of the character and purpose of the sermon, the methods of preparation, and the manner of delivery. The laws of effective popular discourse are studied inductively in connection with the preparation of sermons by the student. Prerequisite: College instruction in composition and rhetoric equivalent to that provided in "English III"; cf. p. 40. Mj. PROFESSOR SOARES.

2. Principles and Organization of Religious Education.¹—The course provides a general introduction to the field of religious education. At the outset the religious life and its place in human development are defined, and the aim of religious education is made clear. This leads the student to investigate the neighboring fields of psychology and education to discover their contributions to the subject. The moral and religious development of the growing child is considered genetically, and examination is made of available material to determine its value in the various stages of child life. Institutions or agencies through which this tested material may be mediated are pointed out and the special opportunities of the home, the public school, the library, and the church are indicated. Other community factors are discussed and a basis of co-ordinating all agencies is formulated. Some attention is given to the organization of the modern Sunday school. Mj. PROFESSOR EVANS.

3. The Modern Sunday School.¹—This course discusses in detail some of the concrete problems of the modern graded Sunday school: (1) underlying ideals; (2) graded curricula; (3) relative value of the more important series of textbooks; (4) departmental organization and methods of grading pupils; (5) the

¹ Registrations accepted after October 1.

important element of Sunday-school worship; (6) methods of handwork; (7) the Sunday-school library; (8) the secretary's department; (9) the social life of the Sunday school, and its relation to the young people's societies and other clubs and organizations; (10) the religious life of the school and educational evangelism; (11) programs of teacher training both within the local church and in city institutes. A graded program of altruistic activity is offered and its relation to the worship and instruction phases is indicated. The course aims to present a workable program for the modern Sunday school, based upon the assured results of advanced thinkers and workers in this field. Instruction is by means of textbooks, topics for special study, reports on local observation, and lesson outlines which guide the student in his study of these problems. The course will be of special value to Sunday-school superintendents, lay workers, and pastors who wish to learn more of the best Sunday-school methodology. Anyone who has had high-school training can pursue the course with profit. Prerequisite: if University credit is desired, "Elementary Psychology" or an equivalent course. Mj. PROFESSOR EVANS.

NOTE.—Related courses will be found under Departmental Nos. I, IA, IB, VI, VII.

ENGLISH THEOLOGICAL SEMINARY

1B. Homiletics.—(Cf. below.)

2B. Outline Course on Pastoral Duties.—(Cf. below.)

VII. THE ENGLISH THEOLOGICAL SEMINARY

I. GENERAL INFORMATION

The English Theological Seminary of the University of Chicago is intended to meet the needs of students who have not had the advantages of a college education and is open to all denominations of Christians. The applicant must present a ministerial license, or a certificate of ordination, or a statement from the church of which he is a member, approving of his purpose of devoting himself to the Christian ministry or other Christian service. He must also furnish the University, when requested, information concerning his church relations, etc. He will pay the University matriculation fee, \$5.00, once, and \$3.00 for each English Theological Seminary course chosen. The reinstatement fee for each of these courses is \$2.00.

II. COURSES OF INSTRUCTION

NOTE.—No credit toward any degree is allowed for these courses. They count only toward the English Theological Seminary certificate. A description of any of the following courses will be sent on application.

1B. Homiletics.—Mj.

2B. Outline Course on Pastoral Duties.—Mj.

3B. New Testament Times in Palestine.—Mj.

4B. Outline of Systematic Theology.—Mj.

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LIBBIE HENRIETTA HYMAN, PH.D., Assistant in Zoölogy.

ROY BATCHELDER NELSON, A.B., Assistant in Greek.

CLARENCE ELMER RAINWATER, A.M., Assistant in Sociology.

MABEL WARD, Assistant in Home Economics.

THOMAS GEORGE ALLEN, PH.D., Extension Assistant in Oriental Languages and Literatures.

LOUISE CLARK, Extension Assistant in Design.

ELDON COBB EVANS, A.M., PH.D., Extension Assistant in Political Science.

EDWARD ATWOOD HENRY, D.B., Extension Assistant in the Old Testament Language and Literature.

JOHN ARTHUR POWELL, PH.D., Extension Assistant in English.

III. GENERAL INFORMATION

Extra-mural Teaching.—All non-resident work for credit is conducted through the Correspondence-Study Department.

1. Teaching by Correspondence.—Experience has shown that many subjects can be taught successfully by correspondence. Direction and correction can often be given as effectively in writing as by word of mouth. Obviously self-reliance, initiative, perseverance, accuracy, and kindred qualities are peculiarly encouraged and developed by this method of instruction.

2. Purpose and Constituency.—Through the Correspondence-Study Department the University offers a large number of the courses given in the classrooms of its different divisions so that those whose formal schooling has been interrupted may continue their studies. The aim is to extend as fast and as far as possible the means and privileges of academic training. Besides contributing to culture, many of the courses, because of their bearing on problems of everyday life, may be turned to immediate practical account.

The courses appeal especially to the following classes: (1) students preparing for college or professional schools; (2) college students who are unable to pursue continuous residence study; (3) grammar and high-school teachers who cannot avail themselves of resident instruction; (4) instructors in higher institutions who desire assistance in the advanced study of some subject; (5) professional and business men who wish to supplement their training; (6) ministers and Bible students who would fit themselves better to use the Scriptures; (7) parents uncertain how to deal wisely with their children; in short, anyone anywhere who desires broader knowledge or more thorough scholarship.

3. Method of Instruction.—Each correspondence course is designed to be equivalent to the corresponding residence course and contains therefore a definite amount of work. A **Major (Mj.)** calls for an amount of work which a student in residence would be expected to accomplish in twelve weeks, reciting five hours per week. A **Minor (M.)** calls for one-half as much work as a Major. The resident student who does full work completes three Majors every three months, but the correspondence student is allowed from twelve to fifteen months, according as he registers late or early in the quarter, for completing whatever number of Major or Minor courses he applies for (cf. § 6, *e* and *g*). On the other hand, he is permitted to finish courses as rapidly as is consistent with good work. Courses are of two kinds, formal and informal.

a) The "formal" course furnishes a systematic and progressive presentation of the subject in a given number of lessons (cf. § 6, *o*). Each lesson contains: (1) full directions for study, including references to the textbooks by chapter and page; (2) necessary suggestions and assistance; (3) questions to test the student's methods of work as well as his understanding of the ground covered. After preparing for recitation the student writes his answers to the questions and mails them to the instructor, together with any difficulties which may have arisen during his study. This recitation paper is promptly corrected and returned. In like manner every lesson is carefully criticized by the instructor and returned, so that each student receives *personal guidance and instruction* throughout the course.

b) The "informal" course is designed for students who are pursuing studies of an advanced nature. The course is usually arranged between instructor and student to meet the particular needs of the latter. The formal lesson sheet is

dispensed with, but the course is carefully outlined by the instructor, and the student is required to present satisfactory evidence that the work is being properly done. This evidence may consist of a number of short papers on special themes, a thesis covering the whole work, or it may partake rather of the nature of ordinary correspondence. Courses are "formal" when not otherwise indicated.

4. Admission.¹—(a) No preliminary examination or proof of previous work is required of applicants for correspondence courses. Before matriculating or registering a student, however, the University does require certain information and reserves the right to reject applicants, or to recommend other courses than those chosen, if the data furnished on the application blank justify such action. If the applicant is rejected or the substitution recommended is not accepted by the student, all fees are refunded. The application blank will be supplied upon request. *In every case it should accompany the fee for a new course.*

b) A correspondence student whose standing in one of the Colleges or Schools of the University has not been determined is ranked as an *unclassified student*.

5. Recognition for Work.—(a) A certificate is granted for the satisfactory completion of the recitation work in any Major or Minor course.

b) Admission credit is given for courses covering college-entrance requirements which are satisfactorily completed and passed by examination.

c) College credit is given for courses of a college grade satisfactorily completed and passed by examination (cf. § 6, b, 1).

d) If the student has a record of residence work in the University, credit gained through correspondence courses is immediately transferred to that record; if not, it is held in the Correspondence-Study Department until the student secures such a record.

e) See also "Regulations" (a) and (b) below.

6. Regulations.—(a) The University of Chicago grants no degree for work done wholly in absence. A *minimum* of nine Majors (three full quarters) in residence at the University of Chicago is an unvarying requisite for any degree.

b) Correspondence courses are applicable to the requirements for the different degrees as follows: (1) The candidate for a Bachelor's degree (A.B., Ph.B., or S.B.) may do eighteen of the required thirty-six Majors of college work by correspondence. (2) The candidate for the medical degree (M.D.), or for the law degree (LL.B. or J.D.), or for the Master's degree (A.M. or S.M.) may not reduce the requirements for his degree *in absentia* because the University gives no instruction in Law or Medicine by correspondence, and the maximum resident time and study requirement for the Master's degree does not exceed the minimum requirement (nine months and nine majors) for any degree. (3) The candidate for the Doctor's degree (Ph.D.) may substitute correspondence for residence work *only* on approval, in advance, of the head of the department in which his work lies. Three years of resident graduate study are expected for this degree. Very few non-resident students command the necessary library or laboratory facilities for graduate study.

NOTE.—The University of Chicago's Bachelor degree, or its full equivalent, is prerequisite for admission to candidacy for a Master's or a Doctor's degree. If a student presents a baccalaureate degree inferior to the University's degree by less than nine (9) majors, he can make it equivalent by means of correspondence courses and thus be free to devote his entire time in residence to graduate work.

¹ If the student later comes to the University he must satisfy admission requirements (see *Circular of Information* of the Colleges and Graduate Schools, pp. 15 ff.).

c) A student may begin a course for which he is prepared at any time, but he may not take more than three Majors during any period of three months nor more than one Major in any period of one month. His reports must be distributed with approximate evenness throughout the period of study. Reports may be refused by the secretary or by the instructor in the course concerned if the student attempts to compress his work unduly.

d) An undergraduate student may not carry on correspondence work while in residence without the written permission of the appropriate Dean.

e) A student is expected to complete all the courses for which he pays at any one time *within one year from the end* (i.e., March 23, June 23, September 23, December 23) of the quarter in which payment is made.

f) A student who, for any reason, does not report either by lesson or by letter within a period of ninety days may thereby forfeit his right to further instruction in the course.

g) Extension of time will be granted: (1) *for a period equal to the length of time which a correspondence student spends in resident study at the University of Chicago*, provided due notice is given the secretary and the instructor at both the beginning and the end of such resident study; (2) *for one full year from the date of expiration of the course* if, on account of sickness or other serious disability, the student has been unable to complete the course or courses within the prescribed time (cf. § 6, e), provided (a) he secures the consent of the secretary and his instructor and (b) pays \$4.00 for each Major course or \$2.00 for each Minor course he wishes to continue. Private arrangement for extension of time between the student and his instructor cannot be recognized by the Department.

h) In order to secure credit for a correspondence course, the student must pass an examination on it within six months from the end of the quarter in which he finishes the recitation work either at the University or, if elsewhere, under supervision which has been approved by the University.

i) During an instructor's vacation a substitute will be provided or the time for completing the course will be extended.

j) The fee for matriculation in the University (\$5.00) is required once, at the time of first registration, of each one who has not matriculated in the institution either as a resident or a correspondence student. The fee is general for the whole University.

k) The matriculation fee will not be refunded to a student whose application has been accepted (cf. § 4, a).

l) The tuition fee will not be refunded on account of a student's inability to enter upon or to continue a course.

m) The student must forward, with each lesson, postage (or, preferably, a stamped, self-directed envelope) for its return.

n) A student will be required to pay for but one Major of a Double Major (DMj.) course at a time unless he applies for both Majors.

o) Ordinarily a Major consists of forty and a Minor of twenty lessons; but there may be variations from this number in order to accommodate the work to the requirements of a particular course. Each course represents a definite amount of work (cf. § 3), the number of lessons into which it is divided being incidental.

p) A course announced as a Major may not be taken a Minor at a time.

q) Each correspondence course is equivalent to the corresponding residence course, and commands credit (cf. § 5) unless statement is made to the contrary.

r) All informal courses are Majors unless otherwise indicated.

7. **Expenses.**—(a) All fees are payable in advance.

b) The matriculation fee is \$5.00 (cf. § 6, j); the tuition fee for *each* Minor course is \$8.00; for one Major course, \$16.00. If a student registers *at the same time* for two Major courses the tuition fee is \$30.00; for three Major courses, \$40.00. No reduction is made for Minor or Review courses included in a combination. A student registering for English Theological Seminary courses will pay the matriculation fee, \$5.00, and \$3.00 for each course taken. The tuition fee includes payment for the instruction sheets received. Books which cannot be borrowed (cf. § 10) must be purchased by the student. Ordinary textbooks are not loaned.

c) The student is required to inclose postage for the return of the lesson-papers (cf. § 6, m).

d) Money should be sent in the form of postal or express order or New York or Chicago draft, made payable to the University of Chicago. The Chicago clearing-house charges exchange on all other forms of remittance—15 cents on sums up to \$50.00.

8. **Method of Registration** (recapitulated).—(a) File with the Secretary of the Correspondence-Study Department a formal application for *each* course desired. The required application blank will be furnished upon request (cf. § 4, a).

b) *Forward with the formal application the necessary fees:* (1) \$5.00 for matriculation, if not matriculated in the University (cf. § 6, j); (2) \$8.00 for each Minor course, or \$16.00, \$30.00, or \$40.00, according as one, two, or three Major courses are applied for; (3) an additional fee for certain courses in the sciences.

9. Scholarships.¹

CLASS A.—Three scholarships, each yielding tuition in residence for one quarter (\$40.00), are awarded annually on April 1 to the three students who have begun, completed, and passed the *greatest number* of Major correspondence courses (but at least four) that represent new advanced work, with a grade of B or better for each course, during the preceding twelve months. If two or more persons finish the same number of Majors, the scholarships will be awarded to those whose average grade for the courses in question is highest, and in case of a tie here, in the order in which they finish, beginning with the earliest.

CLASS B.—A scholarship yielding tuition in residence for one quarter (\$40.00) is awarded to a student for *every four* different Major correspondence courses that represent new advanced work which he has begun since April 1, 1904, completed, and passed with a grade of B or better for each course.

10. **Books, etc.**—For the convenience of students arrangements have been made with the University of Chicago Press whereby supplies, such as books, maps, etc., which are needed in the different courses can be furnished at prices which will be quoted on application to the Correspondence-Study Department. Sometimes *books of reference* may be borrowed from the University libraries. Applications for loans should be addressed to the Director of Libraries of the University of Chicago.

¹ Scholarships are good for any quarter. Two Minors are equivalent to one Major. English Theological Seminary courses are excluded from competition.

IV. THREE PROGRAMS OF HIGH-SCHOOL WORK

The 15 units¹ of high-school work required for admission to the University must include:

3 units of English.

7 units of subjects in Groups 1-6 (see below), to include *at least* 3 units in a single group and *at least* 2 units in another single group.

5 units of any subjects for which credit toward its diploma is given by an approved school.

To fulfil admission requirements most effectively and to leave the maximum freedom of election in college, the following programs are recommended in preparation for college work leading to the different Bachelor degrees:

A.B.	Units	Ph.B.	Units	S.B.	Units
English.....	3	English.....	3	English.....	3
Greek.....	3	One foreign language	3 (or 2)	Science.....	3 (or 2)
Latin.....	4	History.....	2 (or 3)	Mathematics.....	2 (or 3)
Mathematics.....	2	Mathematics.....	2	One foreign language.....	2
Electives from Groups		Science.....	2	History.....	2
3, 4, and 6.....	3	Electives from Groups 1-6	3	Electives from Groups 1-6.	3
Total.....	15	Total.....	15	Total.....	15

Group 1.—Greek.

Group 2.—Latin.

Group 3.—Modern Language other than English (French, German, Spanish).

Group 4.—History, Civics, Economics.

Group 5.—Mathematics.

Group 6.—Science (Physics, Chemistry, Botany, Zoölogy, General Biology, Physiology, Physiography, Geology, Astronomy).

Any combination of the subjects within each group is permitted but not less than $\frac{1}{2}$ unit of any subject may be offered. Not less than 1 unit of Algebra, Plane Geometry, Physics, Chemistry, or a language may be offered. To meet the 2 or the 3 units-in-a-single-group requirement in Groups 1, 2, or 3, the work offered must all be in *one* language.

Correspondence-Study Courses Which Offer High-School Work²

	Units
Political Economy—"Bookkeeping"	$\frac{1}{2}$
History—"Outline History of Antiquity to 376 A.D." (A and B)	1
"Outline History of Europe" (A and B)	1
"Outline History of England" (A and B)	1
"Outline History of the United States" (A and B)	1
Greek—"Elementary Greek" (A and B)	1
"Xenophon: <i>Anabasis</i> " (A and B)	1
"Homer: <i>Iliad</i> " (A and B)	1
Latin—"Elementary Latin" (A and B)	1
"Caesar: <i>De Bello Gallico</i> " (A and B)	1
"Cicero: <i>Orationes</i> " ¹ (A and B)	1
"Vergil: <i>Aeneid</i> " (A and B)	1
French—"Elementary French" (A and B)	1
"Intermediate French" and "Advanced French"	1
Spanish—"Elementary Spanish" and "Intermediate Spanish"	1
German—"Elementary German" (A and B)	1
"Intermediate German" and "Elementary Prose Composition"	1
"German Idioms and Synonyms" and "Modern German Dramas"	1
English—"Prep. English Composition,—A" and "Prep. English Literature,—A"	1
"Prep. English Composition,—B" and "Prep. English Literature,—B"	1
Mathematics—"Elementary Algebra" (A, B, and O)	$1\frac{1}{2}$
"Plane Geometry" (DMJ.)	1
"Solid Geometry"	$\frac{1}{2}$
Physics—"Elementary Physics" (A and B)	1
Physiography—"Physical Geography"	$\frac{1}{2}$
Drawing—"Freehand Drawing"	$\frac{1}{2}$
"Projective Geometry"	$\frac{1}{2}$

¹ A unit represents 120 sixty-minute recitation periods and may be made up by two Majors.

² These courses, when completed and passed, will be accepted in lieu of entrance requirements. Many of them will yield college credit if not offered for admission.

V. THE REQUIREMENTS FOR A BACHELOR'S DEGREE

A total of 66 Majors representing four years (15 units, approximately 30 Mjs.) of high-school work and four years (36 Mjs. with 72 "grade points") of college work are required for a Bachelor's degree. Any amount of the high-school work and as much as one-half (18) of the 36 Majors of college work may be done by correspondence.

REQUIRED COLLEGE WORK

1. *Specified Courses*.—"English I" and "English III."
2. *Continuation Courses*.—Three Majors of that subject in which 3 (or 2) units of admission work are offered or of that subject in which one unit of Senior high-school work is offered.
3. *Distribution Courses*.—Enough Majors in each of the following groups to make the total (high-school+college) credit 4 Majors (=2 units).
 - I. Philosophy, History, and the Social Sciences.
 - II. Language other than English (i.e., Greek, Latin, French, German, or Spanish). The four Majors must be in one language.
 - III. Mathematics.
 - IV. Science.

4. *Sequences*.—(a) One *principal* sequence of at least 9 coherent and progressive Majors taken in one department or in a group of departments. (b) One *secondary* sequence of at least 6 Majors selected from a different department or group of departments. These sequences must have the approval of the Dean. The work in the Divinity School, the Law School, the Courses in Medicine, or the College of Education may be counted in satisfaction of either sequence.

The degree of A.B. is conferred when the principal sequence consists of 11 Majors of Latin and 9 Majors of Greek (7 if all are of a college grade; cf. p. 31 of this circular), including entrance work. A secondary sequence of 6 Majors is also required.

The degree of Ph.B. is conferred when the principal sequence has been taken in any one of the subjects from Philosophy to General Literature, inclusive.

The degree of S.B. is conferred when the principal sequence has been taken in any one of the subjects from Mathematics to Hygiene and Bacteriology, inclusive.

Mathematics may, at the option of the student, be used as the principal sequence for either the Ph.B. or S.B. degree.

No courses counted in satisfaction of entrance requirements, or of the provisions of paragraphs 1 and 3, shall count in making up the principal and secondary sequences, except in the case of the 9- and 11-Major groups in the requirements for the A.B. degree.

Not more than 15 Majors may be taken in college in one department.

VI. COURSES OF INSTRUCTION

PHILOSOPHY

1. *Logic*.—The topics considered in this course are those usually included in a survey of logic—such as the concept; the various forms of judgment; inductive and deductive aspects of reasoning; the nature and use of the hypothesis; methods of inductive inquiry and experimental investigation; syllogisms and

fallacies, etc. Stress will be laid on the functional aspect of thought processes and attention will be called to underlying psychological principles. The aim throughout will be to emphasize the vital connection between logic and the practical problems of everyday life and to show that thinking in the strictly logical sense is a constructive process arising out of the needs of the individual and finding its value in enabling him to organize more adequately his experience and to deal more effectively with the subject-matter with which his thinking is concerned. The student may expect, accordingly, to acquire not only a practical knowledge of logic and a certain training in critical habits of thought but also a good basis for subsequent philosophical study. While "Elementary Psychology" is a helpful preliminary, the course may be taken with profit by those who are prepared for thorough study. Mj. ASSISTANT PROFESSOR ASHLEY.

2. Ethics.—An introductory course intended (1) to familiarize the student with the main aspects of ethical history and theory, and through this (2) to reach a method of estimating and controlling conduct. The main divisions of the course are: (a) the general nature of moral conduct; (b) a study of the evolution of the moral problem from primitive life to the present; (c) a comparative study of current ethical theories; (d) application of the foregoing to present problems of social and individual life. The course will be based on the text of Dewey and Tuft's *Ethics*, with collateral study of Mill's *Utilitarianism*, Kant's *Metaphysics of Ethics*, and Spencer's *Data of Ethics*. Mj. ASSISTANT PROFESSOR ASHLEY.

3. Introduction to Philosophy.—An elementary treatment of important problems of reflective thought. The Greek point of view regarding ethics, logic, art, mind, and education is reached through a study of Plato's *Republic*. Leading philosophic attitudes of modern thinkers are then considered. Mj. ASSISTANT PROFESSOR TALBERT.

4. Greek and Mediaeval Philosophy.—This course is designed (1) as a survey of the history of thought, considered in its relations to the sciences, to literature, and to social and political conditions, and (2) as an introduction to philosophy through a more careful study of some of the most important systems. Special attention will be given to the study of the more important dialogues of Plato and to Aristotle's *Ethics*. Mj. PROFESSOR TUFTS.

5. Modern Philosophy.—Descartes to Hume, with special study given to Descartes' *Meditations*, Locke's *Essay*, Berkeley's *Principles of Human Knowledge*, and a portion of Hume's *Treatise on Human Nature*. Mj. PROFESSOR TUFTS.

6. Introduction to Kant.—Watson's *Selections* and Mahaffy and Bernard's editions of *The Critique of Pure Reason* and *Prolegomena* will be made the basis of the work. The course will be opened with a brief study of the thought of Leibnitz, for which Dewey's *Leibnitz* will be used. This will be followed by a brief outline of Kant's early development and a detailed study of the more important portions of *The Critique* as found in Watson's *Selections*. Prerequisite: course 5 or its equivalent. Mj. PROFESSOR TUFTS.

7. Movements of Thought in the Nineteenth Century.—The course continues in less technical manner the history of modern philosophy: romanticism as represented by Rousseau and certain poets; idealism in German philosophy and in Carlyle; utilitarianism; positivism; transcendentalism as seen in Emerson's view of nature and man; the doctrine of evolution, particularly in its relation to human society and the problems of morality as considered by Huxley; the relation of the scientific to the philosophic point of view as defined by Royce. Those who register for the course should have access to a good library or be prepared to purchase a number of books. Prerequisite: two of the three courses, 4-6. Mj. PROFESSOR TUFTS.

8. Contemporary Philosophy.—Selected works of Eucken, Bergson, and James are studied in detail, the purpose being to illustrate types of philosophic thought. Some of the problems considered are: (1) the relation of philosophy to science; (2) the nature of freedom, space, and time; (3) the definition of truth; (4) the contrasting standpoints of absolutism and pragmatism. This course furnishes the student an opportunity to read philosophers who are now exerting

influence and to formulate by comparison and criticism a point of view of his own. Mj. ASSISTANT PROFESSOR TALBERT.

9. **Evolution and Modern Thought.**—To trace the important consequences of Darwin's theory and method is the object of this course. Starting with an outline of the elements of Darwin's hypothesis, attention is first directed to the history of the English development, followed by a consideration of the contributions of selected European and American writers. Ethics, politics, sociology, logic, aesthetics, and psychology are the fields in which the influences of the doctrine of evolution are considered. The conclusion of the study suggests the way in which the concept of evolution affects general philosophical attitudes as expressed by recent schools of philosophy. Since the course covers an extensive field, it is desirable for the student to select a special problem for more detailed study. To avoid the necessity of a large library, the lesson notes contain fuller discussions than is ordinarily the case. Mj. ASSISTANT PROFESSOR TALBERT.

10. **Hindu Philosophy.**—The course will trace the growth of philosophic thought in India from the *Rig Veda* through the *Upanishads* to the six great philosophical systems. Especial attention will be paid to the Vedānta, the Sāṃkhya, and the Yoga systems. Mj. ASSISTANT PROFESSOR CLARK.

11. **Aesthetics.**—This course deals with the following elementary aspects of beauty and of art forms: (1) psychological principles involved in the appreciation of beauty and its expression; (2) the character of primitive art; (3) the perception of form and the nature of rhythm; (4) description of the special arts—painting, sculpture, architecture, music, and the drama; (5) certain general relations of art to other types of experience. Prerequisite: "Elementary Psychology" or an equivalent course. Mj. ASSISTANT PROFESSOR TALBERT.

PSYCHOLOGY

1. **Elementary Psychology.**—This course takes up the general study of mental processes. It aims to train the student to observe the processes of his own experience and those of others, and to appreciate critically whatever he may read along psychological lines. It is introductory to all work in philosophy and pedagogy and is an important part of equipment for historical and literary interpretation. Mj. ASSOCIATE PROFESSOR CARR.

2. **Advanced Psychology.**—This course presupposes such a familiarity with the subject-matter of psychology as may be gained from course 1 or from intimate acquaintance with Angell's *Psychology*, Ogden's *An Introduction to General Psychology*, Royce's *Outlines of Psychology*, Titchener's *An Outline and Primer of Psychology*, or Yerkes' *Introduction to Psychology*. It may then properly be described as a continuation of the study or an *advance* upon an elementary presentation of the science with a view to further grounding in methods and a reconsideration of some salient problems in the light of recent specialized studies. Mj. DR. MACMILLAN.

3. **Psychology of Thinking** (introductory course).—The purpose of this course will be to investigate the character and function of thinking. Thinking will not be regarded in accordance with popular usage as a common term for all sorts of imagery but will be treated as a reflective process, which arises because of difficulties in our experience and has its object and justification in their solution. The psychology of thinking will include, therefore, (1) a preliminary study of conduct or behavior, with a view to determining the conditions which give rise to problems and reflective processes, and (2) a more detailed account of the way in which thinking proceeds in our attempt to solve these problems. In connection with the general investigation various applications to education, science, and practical affairs will be pointed out—partly for the purpose of illustration and partly for the value which the student who is interested in these fields will derive from the point of view which the course will tend to develop. No special preparation is required as a prerequisite, but any work which the student may have had in biology or psychology should be of considerable assistance. Mj. ASSISTANT PROFESSOR ASHLEY.

4. Social Psychology.—A study of: (1) groups and institutions and the forms of consciousness developed within them; (2) the social aspects of instinct, feeling, and cognition; (3) custom, public opinion, imitation, and suggestion; (4) theories of leadership. Constant practical applications to education and politics are made. Mj. ASSISTANT PROFESSOR TALBERT.

5. Social Groups.—An advanced course in social psychology for students who desire to investigate special problems. The psychological processes underlying political parties, sects, corporations and other business structures, labor organizations, secret societies, etc., are examples of questions needing detailed study. Prerequisite: "Social Psychology" or an equivalent course. Mj. ASSISTANT PROFESSOR TALBERT.

6. Psychology of Religion.—Emphasis is laid on the origins of religion in primitive society, the function of religion from psychological and sociological points of view, and its relation to science and democracy. Part I treats the salient aspects of primitive religion—as custom, taboo, magic, ceremonial, myth, spirits, sacrifice, and prayer. Part II discusses the evolution of religion in the individual from childhood to maturity; the psychology of conversion and religious education are important topics. In Part III the wider aspects of religion are studied: the value and limitations of sects, the nature of religious genius, non-religious persons and the difference between the religious attitude of primitive man and the attitude of the modern individual. Throughout the course the purpose is to consider religion as a normal phenomenon related to human values and institutions and having an identical function from past to present, notwithstanding vast changes in its forms and doctrines. Mj. ASSISTANT PROFESSORS AMES AND TALBERT.

EDUCATION

THE HISTORY OF EDUCATION

1. History of Education.—This course covers in outline the history of education from savagery to the present time. The subject is presented in such a way as to enable the student (1) to gain a conception of the relations of the ideals of an age to general industrial and social conditions; (2) to discover the more important steps in the development of educational theory and practice; and (3) to get a background for the evaluation of the various factors in the problems which command attention today. Emphasis is placed upon great movements rather than upon individuals. Eminent philosophers and educators are considered, but they are treated with reference to the movement to which they have contributed. Mj. DR. DOPP.

2. Introduction to the History of American Education.—This course should appeal not only to all administrators and teachers who desire to secure a preliminary survey of the development of education in America but also to general readers who may feel an interest in the growth of an institution which today involves the expenditure of about one-half billion of dollars annually. The content and method of the course have been influenced by the belief that the greatest service the history of education can perform is to induce executives and teachers to analyze their problems more intelligently in the light of past theories and practices. Actual schools and schoolroom practices will be stressed much more than abstract theory. Some of the topics treated are: (1) secondary education; (2) colonial curricula; (3) teacher-training; (4) educational extension; (5) state systems; (6) higher education; (7) agricultural education; (8) recent movements. Mj. MR. GONNELLY.

3. A Comparative Study of the School Systems of Germany, England, and the United States.—The course will trace the historical development of the existing systems of elementary and secondary education, with especial emphasis upon the characteristic ideals that have differentiated them and upon present tendencies. Mj. PROFESSOR BUTLER.

ADMINISTRATIVE AND SOCIAL ASPECTS OF EDUCATION

4. High-School Administration.—This course is planned for high-school principals, teachers interested in the administrative aspects of the high school, and superintendents. It deals with the practical problems of secondary-school administration, including the relation of the high school to the elementary school and to the college; the use of grades and statistical studies as tests of efficiency; the making of curricula and of programs; the reorganization of the material of secondary education; the junior high school; faculty organization; classroom management; discipline; social organization; moral instruction and training. The material of the course is definitely related to actual school conditions, particularly to those in the University High School. **Mj. MR. JOHNSON.**

5. Principles of Secondary Education.—The course will discuss education as training for social efficiency: the intellectual, social, physical, and moral elements in education; adolescence; the high-school curriculum; handicrafts in secondary education: electives; the extension of the high-school course by the addition of two years; "the many-sided interest"; sending boys and girls to college. The student will be expected to make a study of schools in his neighborhood and to make reports upon these schools in relation to the general topics studied. **Mj. PROFESSOR BUTLER.**

6. The Evolution of Industries and Their Place in Education.—This course is designed to meet the needs of those supervisors, principals, and teachers who are attempting to incorporate industrial education in the course of study. It aims: (1) to afford an insight into the principles of selection by means of which industries and occupations of various sorts may be tested; (2) to present the most fundamental features of industrial evolution; (3) to make a more particular study of several typical industries; (4) to make a practical application of these studies to the elementary and high schools; and (5) to help the teacher gain information regarding the literature of the subject and the nature of the materials and apparatus required. **Mj. DR. DOPP.**

7. Industrial Education in Public Schools.—The course begins with an explanation of the meaning of the present widespread movement for industrial education and a discussion of its relation to other phases of vocational training. This is followed by a historical sketch of industrial education in the United States since 1876, which serves to show the relation between manual training and industrial education. A complete analysis of the present demand for industrial education is made, and consideration is given to the attitude of the manufacturer, of organized labor, of the educator, and of the social worker. Educational ideals are discussed briefly, and a statement is made of the necessary revision of these ideals involved in the evolution of the school system to meet the demand for industrial education. A comprehensive plan of organization for school systems of industrial communities is discussed in detail, and a study is made of all the existing types of industrial schools or classes. These include elementary or pre-vocational, intermediate, secondary, trade, part-time, continuation, and evening schools. Reference is also made to some private experiments in trade training. Among the topics discussed in their relation to industrial education are the following: (1) industrial history; (2) labor and capital; (3) elimination of waste; (4) specialization and concentration; (5) basis of differentiation between elementary and secondary education; (6) vocational guidance; (7) state legislation. **Mj. ASSOCIATE PROFESSOR LEAVITT.**

8. Vocational Guidance.—The course includes the survey of the recent rapid development of various efforts which have been made within and without the schools to secure a more rational adjustment between educational institutions and the usual vocational experiences of young people as they leave school and enter occupations. The purpose of the course is to encourage school officers and teachers to forward this movement by bringing to their attention illustrative examples of vocational guidance in the public schools of the United States. Such topics as guidance, placement, employment supervision, vocational analysis,

analysis of personal characteristics, cumulative school records, vocational guidance surveys, and vocation bureaus will be discussed. Special attention will be given to the relation between industrial education and vocational guidance. The student will have his attention called to the literature of the subject, classified as follows: (1) that discussing the need of vocational guidance in view of existing conditions; (2) that describing modern industrial conditions; (3) that discussing the introduction of vocational guidance into public-school systems; (4) that illustrating the kind of guidance literature which may be put into the hands of pupils; (5) that dealing with the methods of analyzing an occupation; and (6) that discussing the analysis of personal characteristics. The course is especially adapted to the needs of superintendents, principals of high schools, and those planning to fit themselves for vocational counseling. Mj. ASSOCIATE PROFESSOR LEAVITT.

9. Primitive Arts as Educational Means.—This course treats of such typical arts as the dance and pantomime, the festival, music, poetry, the graphic and the plastic arts, with reference to (1) their genesis, growth, and differentiation; (2) their practical, intellectual, social, and aesthetic values; and (3) their significance in elementary education. Mj. DR. DOPP.

EDUCATIONAL PSYCHOLOGY AND EXPERIMENTAL EDUCATION

10. Educational Psychology.—A study of the fundamental psychological processes, with especial emphasis upon those which have direct relation to educational problems. The application of mental laws both to general educational procedure and to the conduct of the special disciplines is made throughout. For example, the general problem of interest and the particular school subjects, reading, writing, and number, are treated from the psychological point of view. Attention is given also to the mental development of the child. Mj. ASSISTANT PROFESSORS FREEMAN AND ASHLEY.

11. The Psychology of School Subjects.—This course endeavors to apply psychological principles, as determined experimentally either in laboratory or classroom, to the problems which confront one in dealing with the subjects of our curricula. Effort is made to render the course as practical and helpful as possible; hence abstract and theoretical discussions will receive little attention. The actual learning process of the child's mind in gaining a comprehension of the branches of study will be emphasized. The following types of learning will be studied in considerable detail: (1) sensorimotor, (2) perceptual, (3) fixing of associations, (4) abstract thought. In all the work the aim is constantly to utilize psychology in the educational field in much the same way that mathematics is employed in the field of engineering. The instructor's belief is that principles, determined by scientifically controlled experiments, should form the basis of our educational practices.

A. Elementary-School Subjects.—The principles of learning will be set forth in order that they may shed light upon the problems of method involved in teaching these subjects: (1) handwriting; (2) spelling; (3) reading; (4) music; (5) grammar; (6) handicrafts; (7) geography; (8) history; (9) arithmetic; (10) civics; (11) natural science; (12) physiology; and (13) drawing. Some more general matters also will be presented, viz., assignment, the recitation, motive, etc. This course will aid superintendents, supervisors, principals, and teachers in gaining a more intelligent comprehension of the learning process. M.

B. High-School Subjects.—In this course the principles of psychology will be applied to the subjects taught in the secondary school. Topics treated are as follows: (1) the psychology of language; (2) individual differences; (3) industrial courses; (4) science; (5) interest and its relation to learning; (6) mathematics; (7) history; (8) the fine arts; and (9) teaching pupils to study. This course should prove of value to superintendents, principals, and high-school teachers who wish to improve their ability to analyze, interpret, and criticize teaching and to evaluate their own efforts. M.

MR. GONNELLY.

12. An Introduction to Child-Study.—Child-study in the widest sense aims to give scientific information concerning the normal life of children. Necessarily it emphasizes natural growth and normal functioning in every aspect, but it must touch upon abnormal growth and the conditions and situations that influence favorable and unfavorable physical and mental constitution and action. This course is designed principally to acquaint students with such phases of the physical and mental life of children of school age as the hygienist and teacher should be familiar with. It reviews the main problems that have been or are being investigated, as well as the current methods of correcting, standardizing, and presenting data concerning child growth and education, and suggests lines of inquiry that are of vital interest to the well-informed worker with children. Mj. DR. MACMILLAN.

13. Classifications and Care of Children.—This course will deal with a special problem of child-study, namely, the variations that differentiate children. Starting with the characteristics common to all children, it will emphasize the varieties or departures from the common or typical which require special care in the home and special training and opportunities in home and school. While primarily designed for students who aim to specialize in the investigation, or the teaching, or the care and treatment of special children, much of the course can be made adaptable to meet the interests and needs of regular teachers and mothers. It presupposes an acquaintance with the course entitled "An Introduction to Child-Study" or its equivalent. Mj. DR. MACMILLAN.

EDUCATIONAL METHODS AND PRINCIPLES

14. Introduction to Education.—This course is a survey of the most important problems in education by means of a brief consideration of the chief topics in the various branches of the subject. The student is introduced to some of the fundamental conceptions of: (1) the psychological aspects of the child's development as it may be influenced by training; (2) the choice of subjects of study and its relation to the child and the community; (3) the forms of organization through which the school is administered; and (4) the method of teaching and of classroom management. The topics are treated with some reference to their historical background. The course is designed to give the student a general view of the whole field as a prelude to later, more detailed study of its special divisions. Mj. ASSISTANT PROFESSOR FREEMAN AND MR. GONNELLY.

15. Curriculum for the Primary Grades.—This course is planned for the practical help of primary teachers, kindergartners, and supervisors. It will consider: (1) the intrinsic relations between the kindergarten and primary grades; (2) various factors in the making of a curriculum for the first three grades and the organization of subject-matter in these grades; (3) the relative proportion and the relation of children's independent work at their seats to the recitation period; (4) the relation of reading, writing, number, and constructive work to the rest of the program; (5) the simplifying and unifying of the day's program. Since the teaching of reading is rather the unique problem of the primary grades, especial attention will be given to a discussion of the principles involved, legitimate tests of what constitutes good reading, and prevalent methods considered in the light of these premises. Each lesson will give an opportunity for help in meeting individual problems in the subject under consideration. The aim is to enable teachers to organize work in the primary grades effectively and to carry out work already organized more intelligently and successfully. Mj. MISS WYGANT.

16. Principles of Method for Elementary-School Teachers.—This course, which is designed for supervisors as well as for elementary-school teachers, treats of the principles underlying the learning process and the selection and organization of subject-matter. Typical modes of activity, such as dramatic play, modeling in sand and clay, drawing, painting, excursions, field trips, experimental work, illustrative and real constructive work, and language, are considered as means of providing first-hand experience which the child needs in order to understand the subject-matter presented in books and other symbols. The

principles considered are applied to the teaching of history and nature-study. Mj. DR. DOPP.

17. Principles of Method for High-School Teachers.—This course discusses the general principles of method which are fundamental in the teaching of all high-school subjects, and indicates by concrete illustrations from these subjects how the principles apply. The following topics are taken up: (1) purposes of high-school instruction; (2) economy in classroom management; (3) the selection and arrangement of subject-matter; (4) types of learning—motor control, the association of symbols and meaning, practice or drill, reflective thinking, habits of enjoyment, and training in expression; (5) self-activity and apperception; (6) influence of age on learning; (7) interests, the basis of economy in learning; (8) adapting class instruction to differences in capacity; (9) supervised study; (10) the use of books; (11) conversational methods; (12) laboratory methods; (13) the art of questioning; (14) lesson plans; (15) measuring the results of teaching; and (16) observation of teaching. Mj. DR. DOPP.

18. The Training of Children (for mothers).—The special aim of the course will be to bring to the mother or teacher such practical knowledge of the fundamental laws of the growth and development of children as will be applicable in the home, beginning in the nursery and following through the periods of childhood and adolescence. It will treat of the problems of play, interest, habit, etc., and will aim to show how Froebel, the originator of the kindergarten, would make the child the chief agent in his own development and at the same time offer a basis for an intelligent and willing obedience to law. The standards of and reasons for present educational methods will be discussed, that parents may judge discriminately of the school work which is being done by and for their children and determine whether it is really making for the best all-sided growth of the child. To this will be added a brief discussion of the value of the Montessori method of education and its place in relation to the kindergarten. Mj. MRS. PUTNAM.

NOTE.—Related courses are offered in Philosophy, History, Sociology, Latin, German, English, Mathematics, School-Library Economics, Aesthetic and Industrial Education, and in other subjects.

POLITICAL ECONOMY

1. Principles of Political Economy.—

A. This course endeavors to point out to the student the main characteristics of our present industrial system. This is done by an examination of its development and by an analysis of its features. A careful study is made of the economic laws governing the production, consumption, and exchange of wealth. Mj.

B. In this course the problems of distribution and several of the concrete problems of the day are discussed. Among the subjects treated are the following: rent; wages; interest; profits; money; banking; international trade; the tariff; trade-unionism; socialism; taxation and public finance. Prerequisite: course 1A. Mj.

PROFESSOR MARSHALL AND ASSISTANT.

ACCOUNTING

2. Bookkeeping.—This course gives a full treatment of the underlying principles of bookkeeping. Its purpose is to acquaint the student with the theory and nature of accounts. The subjects treated will be: (1) forms of accounts, (2) books used in accounting, (3) mode of handling commercial papers, (4) the recording of transactions, and (5) double-entry methods in retail business. In the first half of the course a retail proprietary business is conducted and properly closed. Following this a partnership is opened, introducing a new line of trade and distributing profits proportionately among partners. All principles presented are practically illustrated by a series of transactions that the student will be required to enter in a set of forms which accompany the textbook required in the course. Prerequisite: a working knowledge of arithmetic. [This course commands admission credit only.] Mj. MR. KEEN.

3. Wholesale Partnership Accounting.—This course follows course 2 and is designed for students who have completed that course or who are familiar with the principles of bookkeeping therein enunciated. The articles of co-partnership are introduced and explained: the net profits or losses are carried to the partners' accounts and the books formally closed. New accounts pertaining to a wholesale trade are taken up, in addition to those previously studied. Special attention is given to the method of handling invoices and sales by the loose-leaf system. Also the sales ledger, the bills-receivable and the bills-payable books, are introduced. A system of keeping departmental costs will be fully carried out, showing a comparison of the costs and sales in the several departments in the business. As in course 2, the student will be required to do the practical work in recording transactions and handling the commercial papers pertaining thereto. **Mj. MR. KEEN.**

4. Corporation Accounting.—This course provides a tabulated study of the laws of all the states with reference to the formation and conduct of corporations. Then follows: the opening of a set of corporate books under various conditions; the conversion of a partnership into a corporation; the treatment of good-will as a resource; the manner of issuing, transferring, and canceling stock; the keeping of all special account books used in corporate accounting; the making of balance sheets and the peculiar items composing them; the sources of income, the declaring of dividends, reserve fund, surplus, depreciation, and the closing of the books for a fiscal period. The student is required to record the operations of a manufacturing corporation for two financial periods, thus illustrating the foregoing principles, and also to conduct the payment of all obligations by the voucher system. Incidental to record sheets, and in connection with special references given, the discussion of problems related to corporate accounting is called for. Prerequisite: course 2 or its equivalent. **Mj. MR. KEEN.**

5. Cost Accounting.—This course is designed to give a detailed analysis of that type of accountancy which deals particularly with the various expenses incident to preparing products for the market. All underlying principles are duly outlined, and their interrelation and application are illustrated. Both department method and cost method are analyzed, and their advantages are shown. A synthetic set of problems is used to introduce the working out of costs and to reflect the principles, theoretically discussed, as they are actually involved in the process of manufacturing. Following the introductory examples is given the actual work of a large factory during two months of its operation. All transactions, from organization to closing of accounts, are recorded in the most systematic and thorough manner. In conjunction with this laboratory work papers on office and shop investigation are called for. Prerequisite: course 4 or its equivalent. **Mj. MR. KEEN.**

6. Bank Accounting.—This course begins with a study of the laws governing the banking systems in the United States. The organization of a banking business is fully presented. All the departments of a bank receive due notice. The various books and accounts used in modern banking houses are taken as models for record work. Full directions accompany the lessons for installing a system of bank accounting, followed by actual transactions covering a period of three months, when the books are closed, a financial statement is rendered, and a thorough review is given upon the principles covered in the entire set of lessons. Prerequisite: course 2 or its equivalent. **Mj. MR. KEEN.**

POLITICAL SCIENCE

1. Civil Government.—This course is devoted to an analysis of the organization and activities of the American government, local, state, and national. Some of the topics treated are: (1) the historical foundations of American institutions; (2) the evolution of federal and state constitutions; (3) the development of political parties and party machinery; (4) nominations and elections; (5) the

organization, powers, and duties of the executive, legislative, and judicial departments of the federal, state, and local governments; (6) city government; (7) territorial government. Emphasis is placed upon the actual work governments perform. This course covers the ground of course 1 in residence. Mj. Dr. EVANS.

2. Elements of Business Law.—This course deals with the following branches of private law: (1) contracts; (2) sales; (3) bills and notes; (4) agency; (5) partnership; (6) private corporations; (7) bailments; (8) guaranty and suretyship. These are the subjects most closely connected with the ordinary transactions of business. The general doctrines and underlying principles of these branches are discussed and analyzed and their application illustrated by actual cases. To indicate the scope of the work the following topics will receive attention in dealing with (6) *private corporations*: (a) formation of a corporation; (b) capitalization; (c) common and preferred stock; (d) bonds; (e) ownership and transfer of shares; (f) liability of shareholders; (g) management of corporations; (h) corporate meetings; (i) the powers and duties of officers; (j) the legal powers of the corporation; (k) dividends; (l) dissolution and liquidation of corporations. The purpose of this course is twofold: (1) to give to the man of business a knowledge of the general character and extent of his legal rights and duties; (2) to give to the general student an introduction to the study of the nature and doctrines of American private law so far as they are illustrated in the subjects treated. Mj. ASSISTANT PROFESSOR HALL.

3. Elements of International Law.—A study of the rules observed by civilized nations in their relations with each other. The course includes a general consideration of the history and development of international law and a more detailed study of the subject in its three fundamental divisions of peace, war, and neutrality. Some of the topics treated are the nature, sources, and divisions of international law; the intervention of one nation in the affairs of another; the rights and duties of nations in connection with property; the extent and nature of a nation's jurisdiction over its territory, subjects, and public and private vessels; the rights and duties of diplomacy; modes of warfare; recognition of belligerency; effect of war on treaties; rules of war on land and sea; rights and duties of neutral states; blockade; contraband of war, etc. The course is not strictly technical in character, and should prove of value to those desiring a better understanding of current international affairs, as well as to lawyers and teachers of history and political science. The work will be based on a standard text, supplemented by a book of cases on international law. Mj. ASSISTANT PROFESSOR HALL.

4. Constitutional Law in the United States.—A study of the principles of constitutional law as they have been developed in relation to the federal constitution and to some of the more important provisions of the state constitutions of the United States. The general topics discussed are: (1) the nature of American constitutional law; (2) making and changing of the American constitution; (3) separation of powers; (4) function of judiciary in enforcing constitutions; (5) political rights; (6) personal and religious liberty; (7) protection to persons accused of crime; (8) due process of law and equal protection of the law in regard to procedure, the police power, power of taxation, and the right of eminent domain; (9) laws impairing the obligations of contracts; (10) powers of the federal government and their exercise; (11) regulation of commerce; (12) inter-governmental relations; and (13) jurisdiction of the federal courts. This course is based upon the study of actual cases, which, wherever practicable, have been so selected and arranged as to show not only the law as expounded by the courts today but also its historical development. This is supplemented with the text, which gives an exposition of the general rules derived inductively from a study of the cases. As far as possible technical terms are avoided, so that the course will be of equal value to the general student, the political scientist, and the lawyer. Mj. ASSISTANT PROFESSOR HALL.

NOTE.—Related courses are offered in Political Economy, History, and Sociology.

HISTORY

ACADEMY

The outline courses 1-4 are designed to meet college-entrance requirements in ancient, European, English, and American history, respectively. For A and B together, of each course, one unit of admission credit is allowed. The suggestions for study are made very definite as helps to beginning students and as an outline for high-school teachers.

1. Outline History of Antiquity to 376 A.D.—

A. *Oriental and Greek History to 146 B.C.*—A general narrative and descriptive history of Greece to the Roman conquest, with a brief introductory sketch of the oriental nations that especially influenced Greek civilization. Mj.

B. *Roman History to 376 A.D.*—A general view of Roman history from the early Republic to the establishment of the later Empire in the fourth century, paying special attention to the government and institutions of the latter as a basis for an intelligent study of the mediaeval period. Mj.

ASSISTANT PROFESSOR KNOX.

2. Outline History of Europe (376-1900).—

A. *The Decline of the Roman Empire to the Renaissance (376-1500).*—This course includes a study of the essentials in mediaeval European history from the fall of the Western Roman Empire to the Reformation. Mj.

B. *The Reformation to the Present (1500-1900).*—The course aims to give the student a general understanding of the principal territorial changes, national policies, economic conditions, and intellectual interests of Europe during the last 400 years. Mj.

ASSISTANT PROFESSOR KNOX.

3. Outline History of England.—

A. *English History to 1603.*—An introductory study of the origin and formation of the English nation to the death of Elizabeth. Besides tracing the outlines of political and constitutional development, the course deals briefly with social and institutional history and with the growth of civilization and culture. Mj.

B. *English History from 1604 to the Present.*—Politically and constitutionally the course treats of the rise of Parliament in the seventeenth century, the growth of cabinet government in the eighteenth century, and the growth of popular control over Parliament in the nineteenth century. The colonial expansion of England, the growth of the British Empire, and the main facts and results of the industrial revolution are studied. Mj.

DR. FOX.

4. Outline History of the United States.—

A. *American History to the Formation of the Constitution (1492-1788).*—The course traces the history of the English colonies on the Atlantic coast from the planting to their union under a written constitution. Political and social institutions in the colonies and such economic conditions as affected their development are studied with some care. European rivalries and colonial wars are made subordinate to their results. Other main topics are: the relations of the colonies to the mother-country and to each other; their defense of "the rights of Englishmen" in the face of British colonial policy after 1760; the Revolution and independence; the difficulties of forming a permanent political union; the Articles of Confederation and their failure; the Constitution. Mj.

B. *The Nation under the Constitution (1789-1914).*—Up to the Civil War the course treats of: the organization of the new government; foreign and domestic problems; the services of the Federalists and their overthrow; Jeffersonian policies; the War of 1812 and results; political and economic reorganization; westward extension and the rise of national democracy under Jackson; the Monroe Doctrine and territorial expansion; the slavery controversy and the

triumph of nationalism over sectionalism in 1865. Following the Civil War the chief topics are: political and economic readjustments to 1877; industrial development; economic problems and legislative regulation; civil service and political reform; the growth of socialistic legislation; the Spanish War and "imperialism"; the Wilson policies. Mj.

DR. FOX.

COLLEGE

5. History of Antiquity to the Fall of the Persian Empire.—In this course the history of the nations of the ancient East—Babylonia, Egypt, Assyria, Syria, Israel, etc.—is studied in its development from the beginnings of organized political life to the fall of the world-empire of Persia. A large amount of reading is expected of students. Mj. ASSISTANT PROFESSOR KNOX.

6. History of Greece to the Death of Alexander.—This course presupposes a general knowledge of the external facts of Greek history (course 1A) and undertakes to conduct the student into an investigation of the underlying principles and forces which condition the outward events. It is intended for those who wish to go thoroughly into the subject and are willing to give their time and thought to it. Mj. ASSISTANT PROFESSOR KNOX.

7. History of Rome to the Antonines.—A general view of the development of Rome to the close of the first century A.D., with special emphasis on imperial expansion and provincial government. Mj. ASSISTANT PROFESSOR KNOX.

8. European History: The Mediaeval Period (376-1300).—The invasion and settlement of the barbarians, the revival of the empire, the growth of the papacy, the struggle between these two, Mohammed and his religion, the Crusades, the rise of nationalities and mediaeval institutions will be studied. The needs of the teacher as well as those of the general student are met in this course. It corresponds to History 1 in residence. Mj. ASSISTANT PROFESSOR KNOX.

9. European History: The Later Mediaeval and Early Modern Period (1300-1715).—The course opens with a study of Europe during the period of the Renaissance and extends to the reconstruction of Europe at Utrecht. Besides the Renaissance, the chief topics studied are: the Reformation and its results; the growth of national states; the "wars of religion" to 1648; the ascendancy of France; the English constitutional struggle of the seventeenth century, and the colonial expansion of Europe following the period of exploration and discovery. The course corresponds to History 2 in residence. Mj. DR. FOX.

10. European History: The Later Modern Period (1715-1900).—In the eighteenth century the principal topics studied are: the rise of Prussia and Russia; the colonial supremacy of England; the ancient régime in Europe; the era of the French Revolution and Napoleon. Following this the course will treat: the political reconstruction of Europe in 1815, political and constitutional reform, the unification of Italy and the formation of the German Empire, the Balkan problem, the industrial revolution, European imperialism, and the growth of socialism and socialistic legislation. Stress will be laid on the economic factors of modern history. The course furnishes an introduction to the study of current history. It corresponds to History 3 in residence. Mj. DR. FOX.

11. Europe during the Renaissance (1250-1500).—A survey study of the period of the Renaissance in Europe. In addition to a general understanding of important events, emphasis is laid upon exploration and discovery; the growth of nationality; the expansion of the Ottoman Empire; commercial and industrial conditions, and the prominent intellectual and religious movements. Prerequisite: course 8 or its equivalent. Mj. DR. FOX.

12. Europe during the Reformation (1517-1648).—This course is a study of the causes, events, and results of the Reformation in Europe. Much attention will be given to the political, social, and economic phases of the movement, the inseparable religious questions being discussed only so far as is necessary to an understanding of the period. Prerequisite: course 9 or its equivalent. Mj. DR. FOX.

13. The French Revolution and the Era of Napoleon.—The ground will be cleared for the history of the period by a careful study of the institutions of the Old Régime, in which the remoter causes of the Revolution will be discovered. A consideration of the more immediate causes and the attempts at reform will introduce the Estates General. The Revolution ran through three periods which answer to the National Assembly, the Legislative Assembly, and the Convention, to the extreme of a red democracy. Three more periods, corresponding to the Directory, the Consulate, and the Empire, see France return to a military absolutism under Napoleon. The greatest emphasis will be laid upon the institutional changes induced by the French Revolution, and attempt will be made to show the constructive work of the Revolution and of Napoleon. Its importance as one of the greatest generic events of the world's history will give the course a significance wider than France alone. It is desirable that the student be familiar with the outlines of modern European history. Prerequisite: course 9 or its equivalent. Mj. PROFESSOR THOMPSON AND DR. FOX.

14. History of England to the Accession of the Tudors.—Early Britain, its Romanization, the settlements of the invading German tribes, the struggle for supremacy, the union of England under Wessex, the Norman Conquest, the struggle of the people for constitutional rights, civil and foreign wars, and the beginning of the Renaissance in England will be studied. Mj. Dr. Fox.

15. England from Henry VII to Edward VII (1485-1910).—While a general view of political policy, foreign and domestic, is the chief aim of the course, special attention is given to such important topics as the growth of Parliament, of democracy and imperialism, and considerable stress is laid on religious, economic, and social movements. Mj. Dr. Fox.

NOTE.—The following courses presuppose course 4 (A and B) and afford opportunity to study American history more exhaustively. The student is advised to take the courses in sequence. In this way he will greatly economize the expenditure for books, since successive courses require the same textbooks to a large extent. Graduate credit may be obtained in courses 16 and 17 by properly prepared students who have access to sources and original documents and who do additional advanced work under the direction of the instructor. In such cases the tuition fee for each Minor will be \$16.00 instead of \$8.00.

16. Colonial Period (1607-1783).—

A. *Colonization and Colonial Institutions (1607-1763).*—This course deals briefly with the period of discovery but more in detail with the origin and development of political, social, and economic institutions. The chief events of colonial history are considered with especial reference to the relations between the English colonies and the mother-country and the economic and political causes leading up to the Revolution. The course concludes with a survey of the struggle for the control of North America by the French and English and the peace of 1763. M.

B. *The American Revolution (1763-1783).*—The following topics show, substantially, the content of the course: the territorial, political, and economic condition of the English colonies in 1763; the new policy of the English government; the development of colonial opposition; the constitutional and philosophical arguments on both sides; the beginning of hostilities; the Declaration of Independence; the progress of the war; Congress as a governing body; the Loyalists; French and Spanish intervention; Washington's triumph; the preliminaries and terms of peace of 1783. M.

ASSOCIATE PROFESSOR JERNEGAN.

17. The Formation and Growth of the Nation (1783-1829).—

A. *Confederation and the Constitution (1783-1789).*—The following topics are treated: the results of the Revolutionary War; the government under the Articles of Confederation; the organization of the western territory; interstate controversies; problems of diplomacy and foreign trade; violations of the treaty of peace; paper money; the Shays Rebellion; the Constitutional Convention; analysis of the Constitution; the process of ratification. M.

B. *Foreign Politics and National Expansion (1789-1829).*—Beginning with the organization of the national government, the course deals with the

policy of the Federalist party in foreign and domestic politics and the rise of the Democratic opposition. The broad and strict constructions of the Constitution are carefully studied. Further topics are the fall of the Federalists; Jefferson's policy; annexation of Louisiana; experiments in neutrality, and the causes, progress, and results of the War of 1812. The course concludes with a survey of the political and economic reorganization after the war, including western expansion, the Missouri Compromise, the Monroe Doctrine, and the triumph of the Jacksonian democracy. M.

ASSOCIATE PROFESSOR JERNEGAN.

18. Sectional Conflict and National Development (1829-1914).—

A. *Democracy, Expansion, and Conflict (1829-1865).*—The course is intended for maturer students who wish to learn "why things happened as they did as well as how they happened." Thus attention is given to the causes of the democratic revolution under Jackson and the growth of political machinery and the "spoils system" by which party government was made effective; the economic and political growth of the lower South, the development of the industrial North, and their rivalry for the political alliance of the growing West. The fundamental cause of sectionalism is found in economic divergence; its growth is traced in the sectional treatment of practically all national questions before 1860—the tariff and nullification, banks, the subtreasury system, land policy, internal improvements, the admission of new states, and territorial expansion. Careful study is made of: slavery as a system and its economic, social, and political effects; abolition and anti-slavery; aggressive expansion under southern leadership; the vain efforts of the South to extend its system to new territory and its consequent loss of political power; the sectionalization of the older political parties after 1850; the rise of the new Republican party and its triumph in 1860; secession and the triumph of nationalism. The great statesmen and other leaders of the period receive due attention. Other topics are: the growth of industry, agriculture, and commerce under the spur of mechanical invention and improved transportation; urban development; social changes; immigration; religious and cultural history. M.

B. *National Consolidation and Expansion (1865-1914).*—The course treats of the problems of reconstruction, the blundering policy pursued by Congress, and the recovery of the South; the conflict between Congress and the executive, legislative scandals and executive demoralization, and political, constitutional, and economic readjustments made necessary by the war; the rapid growth of the North, the settlement of the West under the influence of transcontinental railways and liberal land laws, and the economic rise of the New South. The cardinal facts of the period are found to be the economic development of a free, united people under a policy of *laissez faire*, the rise of enormous corporations and trusts in industry and transportation and their efforts to control government in the interests of "big business," the effects of such material changes upon the structure of society, and the efforts of popular government to control this portentous economic development by law. In this light tariff reform, coinage of silver, currency and banking, conservation, railway-rate regulation, government supervision of corporations, the labor movement, and labor and socialistic legislation are studied. On the political side third-party movements, civil-service and ballot reform, the extension of federal powers and activities, and the development of such democratic weapons as direct primaries, direct election of senators, direct legislation, and the recall are considered. Attention is given to commercial expansion, "imperialism," foreign relations and the emergence of the United States as a world-power, Latin American relations, and the Panama Canal. The first two years of the Wilson administration are included in the study. M.
Dr. Fox.

19. *Economic History of the United States.*—A general survey of the subject aiming to acquaint the student with the economic problems and forces as they developed and shaped the course of American history—a phase frequently neglected, but of fundamental importance for a proper understanding of the history

of the American people. Among the main topics treated are: (1) colonial agriculture, industry, and commerce; (2) economic aspects of the Revolution; (3) the opening up and settlement of the West; (4) the public lands; (5) internal improvements; (6) railways and waterways; (7) slavery; (8) immigration; (9) the merchant marine; (10) foreign commerce; (11) the development of agriculture; (12) the rise of manufactures; (13) the growth of trusts and trade unions. Prerequisite: courses 1(A and B) in Political Economy and 4 (A and B) in History, or their equivalent. Mj. Dr. Fox.

History of India.—(Cf. description under Sanskrit 4.)

SCHOOL OF EDUCATION

20. History for Primary Grades.—This course is designed for teachers in primary grades and also for supervisors and principals. It aims: (1) to show the principles upon which subject-matter should be selected for the children of the lower grades; (2) to assist the teacher in outlining a course of study; (3) to give practical help in methods of presenting subjects to children; (4) to show the relation which a course of study in history should bear to the social occupations of the school. The course treats of the following topics: primitive industrial and social life; local history; civics; constructive work; children's literature. Students who are teaching in primary grades may modify their work to make it of practical assistance in their own schools. The course covers the ground of course 1 in the Department of History in the School of Education. Mj. ASSOCIATE PROFESSOR RICE.

21. Teachers' Course in American History.—This course is intended for teachers in the upper grades of the elementary schools. It gives a brief study of colonial history and a fuller treatment of the period of westward expansion. The effects of geographical environment upon industrial and social life are emphasized. The course corresponds to course 11 in the Department of History in the School of Education. Mj. ASSOCIATE PROFESSOR RICE.

22. A Method of Teaching Historical Geography.—This course is designed especially for high-school teachers of history and involves the use of the ordinary texts in the subject, an atlas showing the physical features, and a historical atlas. It aims: (1) to make the student expert in constructing quickly sketch maps of Europe as a whole and of various portions of the continents; (2) to show him how such maps are an aid in visualizing and appreciating the relations of physical features and in understanding the course of political and social history; (3) to teach him the value of these maps to illustrate the important phases of the territorial expansion of various nations in ancient, mediaeval, and modern times; and (4) how to use the sketch map in the classroom. Mj. ASSISTANT PROFESSOR WALKER.

THE HISTORY OF ART

1. Introduction to the History of Painting.¹—The object of this course is twofold: to increase understanding and enjoyment of paintings as works of art and to furnish an outline of the development of painting as a foundation for more detailed study. The course includes: (1) an exposition of general principles of aesthetic excellence in pictorial art and analysis of selected paintings of various periods and schools in accordance with these principles; (2) a survey of the evolution of art forms in European painting to the present time. Attention will be concentrated upon representative masterpieces, the history of intervening periods being traced briefly. The analyses are planned to stimulate the student's response to the aesthetic content of paintings so that in the historical work he will not overlook this element. Instruction is based upon reproductions of paintings, with readings and supplementary material furnished in the lesson sheets. Prerequisite: a year of college work or the equivalent. Mj. Miss DRISCOLL.

¹ Registrations will be accepted after October 1, 1916.

2. Flemish Painting.¹—A course on the development of Flemish painting from the mediaeval miniaturists to Rubens and Van Dyck. The method will be analytical as well as historical. Instruction is based on reproductions of paintings with supplementary readings. Prerequisite: a year of college work or the equivalent. Mj. MISS DRISCOLL.

3. Dutch Painting.¹—Emphasis will be laid on the work of the masters of the seventeenth century and the special forms of portrait, genre, and landscape painting as developed by the Dutch in that period. Instruction is based on reproductions of paintings with supplementary readings. Courses 2 and 3 are planned to give a comprehensive outline of the painting of the Netherlands. The course on Flemish painting, while not prerequisite, will add materially to the student's understanding of the special achievements of Dutch painting and its relation to the Flemish school. Prerequisite: a year of college work or the equivalent. Mj. MISS DRISCOLL.

NOTE.—Related courses are offered in Philosophy, History, Aesthetic and Industrial Education, and Drawing.

SOCIOLOGY AND ANTHROPOLOGY

SOCIOLOGY

1. Introduction to Sociology.—A study of the phenomena of social life; the basis of society in nature; the social person; social institutions, and social psychology, order, and progress. The course is designed to give an introduction to theoretical and practical sociology and to systematize the reading, observation, and thinking of advanced students. Mj. ASSISTANT PROFESSOR MACLEAN.

2. Introduction to the Study of Society.—This course is designed to afford a synthetic view of social phenomena, and to furnish the student with a scientific method for the study and correct understanding of ordinary human association. Considerable attention will be paid to local studies as a means of amplifying the text. The aim is to have the course serve as an introduction to the special social sciences. Mj. ASSISTANT PROFESSOR MACLEAN.

3. Elements of Industrial History.—The aim of this course is to acquaint the student with the salient facts of American industrial history and to furnish a foundation for those who wish to do further work in economics or sociology. Selected industries will be studied in detail and their evolution discussed. A course for practical people as well as for students. Mj. ASSISTANT PROFESSOR MACLEAN.

4. Social Debtor Classes.—A course for practical social workers and supporters of social amelioration. The particular work in which the student is interested is taken as a starting-point and an attempt is made to discuss various forms of preventive and constructive social work from the standpoint of the relief visitor, city missionary, alienist, contributor, or lay student, as the case may be. Texts are chosen with a view to the reader's special needs, and illustrations are taken from his own state or community. The chief aim of the course is to give occasion for the reader to analyze, classify, and describe his own environment and his own experience and observation. Prerequisite: course 1 or its equivalent. Mj. ASSISTANT PROFESSOR MACLEAN.

5. Modern Immigration.—This course includes a study of the forces at work in movements of population from the old world to the new; history and statistical studies of immigration into the United States; nationalities involved; their distribution and industrial adjustment; problems presented; social efforts looking toward better assimilation; the status of the immigrant. A course for students, social workers, and all who are interested in this important social problem. Mj. ASSISTANT PROFESSOR MACLEAN.

6. Rural Life.—The aim of this course is to study rural social life in America, with its problem of isolation, and organized efforts for improvement. The course

¹ Registrations will be accepted after October 1, 1916.

is designed to meet the needs of Young Men's and Young Women's Christian Association secretaries, country ministers, teachers, social workers, and others who are dealing with the problems of rural communities. The country will be studied in its physical, economic, and psychological aspects with a view to a thorough understanding of rural life, a discovery of needs and existing efforts to meet these, and suggestions for further improvement. Mj. ASSISTANT PROFESSOR MACLEAN.

7. Problems of Industry.—A course designed for the discussion of some of the vital questions in American industrial life, including: (1) the labor of women and children; (2) methods of settling disputes; (3) insurance against accident; (4) the improvement of physical conditions in factories; (5) efforts to render workers more efficient. The work will be conducted by means of textbooks, reports, and special studies. Mj. ASSISTANT PROFESSOR MACLEAN.

8. The Playground Movement.—A course, like Sociology 63 in residence, primarily for playground supervisors and recreation and community-center directors, but useful also to social workers, educators, ministers, Y.M.C.A. leaders, and others who desire to know about the scope and the objectives of the current play and recreation movement. The course includes consideration of the following: (1) sources and evolution of play in the race—its age periods, sex differences, social, national, and racial traits, its rhythmic and seasonal characteristics, transmission of its traditions; (2) forms of play in different centuries, with special attention to material that may be helpful in the observance of seasonal or religious festivals and the production of historical pageants; (3) the occasion for public provision for play; (4) the program, agencies, equipment, and organization of public play and recreation; (5) history, statistics, legislation, propaganda, and the application of the current play and recreation movement in institutions of various types. Instruction is based upon problems for the solution of which the essential material is furnished, but collateral reading is indicated and required. Desirable prerequisites are two or more years of college or equivalent training, including introductory courses in psychology, education, and sociology. Mj. MR. RAINWATER.

9. The Direction of Playground Activities.—Designed, as is Sociology 64 in residence, for the training of playground and recreation directors in the theory and method of conducting and correlating the practical play and recreational activities of all ages of people. In the first part of the course the physical, social, civic, aesthetic, industrial, and nature interests will be studied in their application to age, sex, time, place, and end or aim. Here are taken up marching, calisthenics, gymnastics, dancing, plays and games, athletics, badge tests, leagues and tournaments, exhibitions and field days, excursions, hikes and camps, stories, dramatics, festivals, pageants, music, modeling, wood craft, toy-making, paper folding and cutting, raffia and reed craft, hammock-making, nature-study and gardening, the organization of clubs, the conduct of social and game rooms, the organization of community councils and centers and civic classes, public meetings and forums. In the second part programs for the day, the week, and the year, on both indoor and outdoor children's playgrounds, men's and women's gymnasiums and field houses, and school social centers are formulated. The method of instruction is similar to that in the preceding course. Prerequisite: "Playground Movement." Mj. MR. RAINWATER.

ANTHROPOLOGY

10. General Anthropology.—An introductory course treating of the origin, antiquity, distribution, and early occupations of man and of the sources of language, religion, the arts, and social relations. The student must consult the instructor before registering. Mj. ASSOCIATE PROFESSOR STARR.

11. Japan.—A general view of Japan, past and present, is sought. Especial attention is given to industrial art and religion. The student must consult the instructor before registering. Mj. ASSOCIATE PROFESSOR STARR.

HOUSEHOLD ADMINISTRATION

1. House Sanitation.—This course offers a comprehensive and practical study, based on scientific principles, of the sanitary aspects of the home. Recent changes in sanitary theory and practice are especially emphasized. Among the topics treated are the choice of building site, construction and care of cellar, drainage, plumbing, heating, lighting, ventilation, furnishing, and cleaning. Mj. PROFESSOR TALBOT.

2. Foods and Dietaries.—A course in practical dietetics covering the study of the composition of foods, scientific principles of preparation, and their combination in dietaries from an economic and physiological standpoint. Prerequisite: high-school chemistry and physics. Mj. PROFESSOR TALBOT.

3. Administration of the House.—This course will consider the order and administration of the house with a view to the proper appointment of the income and the maintenance of suitable standards. Changes in household industries in the light of modern economic and social conditions and sanitation will be studied. The domestic service problem will be investigated. Mj. PROFESSOR TALBOT.

SCHOOL OF EDUCATION

4. Design, Decoration, and Furnishing of the House.—This course treats of the general principles which govern the decorating and furnishing of an artistic home, and is intended: (1) for home-makers, as an aid (a) in the selection of paints and stains for house exteriors, wall and floor coverings, draperies and upholstery, furniture, hardware, table appointments, etc., (b) in the arrangement of the home, with due regard to color harmonies and space relations, and (c) in the designing and executing of such pieces of handicraft as stenciled or embroidered hangings and covers, lamp and candle shades, screens, pillows, etc.; (2) for teachers, as an enrichment of the courses in art and domestic science in primary and secondary schools, offering in the home a nucleus for a course embracing problems in design and handwork. The following topics are treated: (1) domestic architecture, selection from architects' drawings, exteriors and plans, making original plans; (2) color and color harmonies, applied to the exterior and interior of a house; (3) proportion and space relations, with illustrative problems in design; (4) study in detail of walls, floors, stairs, doors, windows, furniture, hardware, and textiles, with investigation, under direction, of articles to be found in the stores. Mj. MISS RAYMOND.

5. Theory of Teaching Home Economics.—

A. This course includes an analysis of the subject-matter of home economics and a discussion of the phases of this material to be taught in the elementary and secondary schools. The specific problems analyzed are experimental cooking problems, dietaries, marketing, household management, household sanitation and decoration. The organization of elementary-school courses is also considered, and outlines for one- and two-year courses are developed. This course is planned for students taking a two-year departmental certificate or a degree with a minor sequence in home economics. Prerequisite: 2 Majors in Education and 3 in Home Economics. M.

B.¹ This course develops the problems of organization of secondary-school courses. It includes a study of the relation of home economics to the other work in the high school, especially the science sequence. Courses in the various aspects of home economics are also planned. The development of wider social bearings of home economics, such as school feeding problems, visiting housekeeper, and housekeeping center classes, is also discussed. This course completes the required major in Teaching of Home Economics. Prerequisite: 2 Majors in Education and 5 in Home Economics, including course 5A. M.

MISS WARD.

¹ Not available during 1916-17.

ORIENTAL LANGUAGES AND LITERATURES

(For courses see p. 69)

NEW TESTAMENT AND EARLY CHRISTIAN LITERATURE

(For courses see p. 71)

COMPARATIVE PHILOLOGY, GENERAL LINGUISTICS, AND INDO-IRANIAN PHILOLOGY

1. **Elementary Sanskrit.**—The aim of the course is to give the student a thorough grounding in the essentials of Sanskrit grammar, the principles of which are illustrated by constant translation from Sanskrit into English and from English into Sanskrit. It is designed as an introduction to the selections from classical Sanskrit in Lanman's *Reader*, which the student should then be prepared to read rapidly by himself. No attempt is made to teach comparative philology in this course. Mj. ASSISTANT PROFESSOR CLARK.

2. **The Bhagavad Gītā.**—The Sanskrit text of this most famous of all Hindu religious books will be read and some attention will be paid to the content and the development of the doctrines contained in it. Mj. ASSISTANT PROFESSOR CLARK.

3. **History of Sanskrit Literature.**—The aim of this course is to give a brief survey of the literature of India—a literature of no small intrinsic value and one which offers much that is of interest to the occidental student. An effort will be made to gain some intelligent appreciation of the social and intellectual conditions under which this literature was produced and to form some conception of its place in the literature and thought of the world. No knowledge of Sanskrit or Pali is necessary, but a large amount of reading in translations will be required. Mj. ASSISTANT PROFESSOR CLARK.

4. **History of India.**—This course will trace the political history of India and the parallel social development from the time of the Rig-Veda to the Battle of Plassey in 1757. The formation of the Mongol Empire in Central Asia will be traced in order to give a background for the treatment of the Mogul period in India. Mj. ASSISTANT PROFESSOR CLARK.

Hindu Philosophy.—(Cf. description under Philosophy 10.) Mj. ASSISTANT PROFESSOR CLARK.

The Religions of India.—(Cf. description under Comparative Religion 4.) Mj. ASSISTANT PROFESSOR CLARK.

THE GREEK LANGUAGE AND LITERATURE

ACADEMY

A1. Elementary Greek.—In two Majors is offered the equivalent of the first year of high-school work in Greek. The writing of Greek is required from the beginning.

A. White's *First Greek Book*, Lessons 1–60. These lessons include the commonest noun and adjective declensions, the Omega system of conjugation, some fundamentals of syntax, connected reading lessons epitomizing the story of the *Anabasis*, and a vocabulary of 600 common Greek words. Mj.

B. (1) White's *First Greek Book*, Lessons 61–80, including a study of the Mi system of conjugation, reading lessons, continuing the *Anabasis* story, and an additional vocabulary of 250 words; (2) the *Anabasis* of Xenophon, Book i, chaps. 1–3. These lessons call for constant review of the material studied in the *First Greek Book*. Mj.

ASSISTANT PROFESSOR BRONSON.

A2. Xenophon: *Anabasis*.—

A. From Book i, chap. 4, through Book ii, chap. 4, about fifty pages. Exercises in writing Greek based upon the text. Mj.

B. From Book ii, chap. 5, through Book iv, about ninety pages. Greek composition, including a topical treatment of syntax. Occasional tests in translation at sight. Mj.

ASSISTANT PROFESSOR BRONSON.

A3. Homer: *Iliad*.—

A. Books i-iii.—An introductory study of the *Iliad* in which the literary and linguistic aspects of the poem and the Greek life of the Homeric period are considered. Particular attention is paid to prosody and the peculiarities of epic dialect and syntax. Mj.

B. Books vi-xxii (*passim*).—The selections read in this course are chosen with a view to giving the student an idea of the plot of the *Iliad* as a whole. They include parts of books vi, ix, xv, xvi, xix, and xxii. The grammar, dialect, and prosody are reviewed, and the text is made the basis of a general literary and elementary critical study of the *Iliad*. Mj.

MR. NELSON.

COLLEGE

Courses 1, 2, 3, and 4 are designed for students who begin Greek *after entering college*. They are coextensive with the corresponding residence courses, are conducted in the same manner, and are intended to prepare the student for the advanced required work. The first three Majors are equivalent to the first year's work in college.

1. **Elementary Greek.**—The purpose of this course is to give a mature person or one who has had four years of good high-school training sufficient drill in the most common forms and principles of syntax of the Greek language. After a very few lessons the *Anabasis* is begun, and throughout the entire course attention is paid to the writing of simple sentences in Greek. Mj. MR. NELSON.

2. **Xenophon: *Anabasis*.**—The *Anabasis* is continued from the point reached at the end of course 1, and six more chapters from Book i, with selections from Books ii and iii, are read. A systematic study of syntax is begun, with frequent exercises in prose composition. Mj. MR. NELSON.

3. **Xenophon: *Anabasis* (advanced).**—Books iv, v, vi, and selections from vii are read in this course, and the systematic study of syntax begun in course 2 is completed. The literary style of Xenophon and the historical content of the *Anabasis* are also subjects of study. Mj. MR. NELSON.

4. **Homer: *Iliad*.**—This is an introductory course to the study of Homer. The forms and syntax of the epic dialect are contrasted with those of the Attic dialect, and the essentials of prosody are presented. Selections from the *Iliad*, amounting to about 2,000 lines, are read. The course includes a literary study of this epic, with its pictures of life in the Homeric period. Mj. MR. NELSON.

5. **Plato: *Apology* and *Crito*.**—In connection with these writings short selections from Plato's *Symposium* and *Phaedo* and from Xenophon's *Memorabilia* will be read to furnish a basis for the study of the life and philosophy of Socrates as interpreted by Plato and Xenophon. The course includes a brief outline of Plato's life and works and a discussion of the syntax and idioms of Plato. Mj. MR. NELSON.

6. **Homer: *Odyssey*** (Books i, v-xii, and selections from Books ii and iv).—This course aims chiefly at enabling the student to translate Homer fluently and with appreciation. It also includes a review of epic dialect and syntax and a study of Homeric life and antiquities. Mj. MR. NELSON.

7. **Herodotus: *Historiae*** (Books vii-viii).—The reading covers the invasion of Xerxes, including the battle of Salamis. The history of this period and the language and style of the author are studied. Mj. MR. NELSON.

8. **Advanced Prose Composition.**—The course offers to teachers and others an opportunity to perfect themselves in Greek syntax, sentence structure, and the use of particles. The exercises are graded from simple narrative passages in the style of Xenophon to more difficult selections in the style of Plato and Demosthenes. Mj. PROFESSOR BONNER.

9. **Lysias: *Selected Orations* and Demosthenes: *Philippics*.**—A general introduction to Attic oratory. The literary characteristics of the authors studied and the public life and the history of their times are considered. (Informal.) Mj. MR. NELSON.

10. **Demosthenes: *De Corona*.**—This oration, admitted to be the greatest one of ancient times, will be studied chiefly from the literary point of view. (Informal.) Mj. MR. NELSON.

11. **Introduction to Greek Tragedy.**—Sophocles' *Antigone* and Euripides' *Medea* are read. Attention is given to the various problems connected with these plays, to the character delineation, and the method of presentation. Col-
lateral reading is assigned on the history of Greek tragedy and theater. Mj. MR. NELSON.

12. **Aristophanes.**—An introduction to the study of Greek comedy; intensive study of two plays, probably the *Clouds* and *Birds*; the language and technique of Aristophanes; the external environment and inner spirit of Athenian comedy. (Informal.) Mj. MR. NELSON.

Members of the Greek Department will endeavor to arrange informal courses for students who are prepared to do work of an advanced nature whenever practicable. Professor Shorey will occasionally guide by correspondence the work of advanced students who propose to attend the University.

NOTE.—Related courses are offered in Philosophy and General Literature.

THE LATIN LANGUAGE AND LITERATURE

ACADEMY

1. **Elementary Latin.**—In two Majors is offered the equivalent of the first year of high-school work in Latin. Starting with the rudiments, the aim is to acquaint the student with all the regular forms and common constructions found in Caesar's *De Bello Gallico* and to give him a large vocabulary.

A. Includes all the declensions of nouns and adjectives, all the conjugations of regular verbs, and the simplest rules of syntax. Mj.

B. Provides: (1) a review of verb forms, the conjugation of the irregular verbs, and the more difficult constructions in syntax, and (2) the study of Caesar: *De Bello Gallico*, Book i, chaps. 1-30, covering the Helvetian War. Mj.

MISS PELLETT.

2. **Caesar: *De Bello Gallico*.**—

A. Book ii.—This course is intended for students who have completed course 1, but who have had no other practice in translation. Special attention is given to a review of forms and syntax. Exercises in prose composition based upon the text form a part of each lesson. Mj.

B. Books iii-iv.—Continues the above. The more difficult Caesarian constructions are carefully studied, and further practice is given in prose composition. Mj.

C. Book i.—The latter part of Book i, the war with Ariovistus, is read. While forms, syntax, and prose composition continue to be studied, indirect discourse receives special attention. M.

MISS PELLETT.

3. **Cicero: *Orationes*.**—

A. *In Catilinam*, i-iv.—This course includes translation, a review of forms and of more difficult constructions, exercises in Latin composition based upon the portion of text assigned in each lesson, and the history of the period. Mj.

B. *Pro Lege Manilia* and *Pro Archia*.—Continues A and includes a careful study of the literary style of Cicero, of all historical references, and exercises in prose composition based upon the portion of text assigned in each lesson. Especial attention is given to translating into good English. Mj.

MISS PELLETT

4. Vergil: *Aeneid*.—

A. Books i-ii.—The work includes a study of prosody, word derivation, constructions peculiar to the poets, and the more common rhetorical figures. Mj.

B. Books iii-vi.—Continues A and lays emphasis upon elegance of translation, the mythology, and the literary style of Vergil. Mj.

MISS PELLETT

5. *Prose Composition Based on Caesar*.¹—This course affords: (1) practice in writing Latin in connected passages based on Caesar's *De Bello Gallico*; (2) a thorough review of grammatical forms and constructions found in the *De Bello Gallico*; (3) a careful study of synonyms. As the course is informal, special attention can be given to any subject in which the student is deficient. M. MISS PELLETT.

6. *Prose Composition Based on Cicero*.¹—Like course 5, using the orations as a basis. M. MISS PELLETT.

NOTE.—The courses 1-6 are intended for three classes of students: (1) those who are preparing to enter college; (2) those who wish to study Latin for their own benefit; (3) teachers of Latin who from the topics and questions in each lesson can receive suggestions for their own work, e.g., the points to be emphasized at different stages in Caesar, Cicero, and Vergil.

COLLEGE

7. Cicero: *De Senectute*.—The entire essay is read with studies in syntax and exercises in prose composition based upon the text of each lesson. M. MISS PELLETT.

8. Terence: *Phormio*.—This play, as a specimen of the highest development of Roman comedy, is carefully studied with regard to composition, presentation, etc. Attention is also given to vocabulary, metrical treatment, and ante-classical forms and constructions. M. ASSISTANT PROFESSOR BEESON.

9. Livy.—The twenty-first book and a large part of the twenty-second, describing Hannibal's expedition against Rome up to Cannae, are read, with accompanying studies in literary style and syntax and exercises in prose composition, based in each case upon the portion of text assigned in each lesson. Mj. ASSISTANT PROFESSOR BEESON.

10. Horace: *Odes*, Books i-iii.—This course includes commentary upon the details of each ode, syntactical, historical, illustrative, etc.; translations, analysis of thought, and general interpretation, and a study of the metrical form. A list of general topics, material for the study of which is to be found in the odes, is presented at the outset, and the student is expected to select one of these for his especial study. Mj. PROFESSOR MILLER.

11. The Latin Subjunctive.—The course presents a systematic treatment of the subjunctive according to the latest scientific theories. All the forms found in preparatory Caesar or Cicero are classified. The student may choose to classify the forms either in Caesar or in Cicero, or in such a combination of the two as shall be equivalent in amount to study. The course is intended primarily for teachers. Mj. MISS PELLETT.

12. *Advanced Prose Composition*.—The course offers to teachers and others an opportunity to perfect themselves in Latin syntax and in sentence and paragraph structure. The exercises are graded from simple passages in the style of Caesar to more difficult extracts in the style of Cicero. Prerequisite: three Majors of college Latin. Mj. ASSISTANT PROFESSOR BEESON.

¹ This course commands no credit.

13. **Cicero: *De Amicitia*.**—Primarily a translation course, with questions based on subjects suggested by the text. The lessons will afford drill in syntax and some practice in the writing of Latin. M. ASSISTANT PROFESSOR BEESON.

14. **Plautus.**—

A. *Captivi*.—This course will deal especially with the linguistic side of Plautus. The vocabulary and scansion will be studied and ante-classical forms and constructions noted. Good idiomatic translation will be required. M.

B. *Trinummus*.—Here the literary side will be emphasized. The course will deal especially with Plautus' style, plot, and delineation of character. As in the first minor, much attention will be paid to translation. M.

ASSISTANT PROFESSOR BEESON.

15. **Tacitus: *Agricola* and *Germania*.**—In the reading of these works both their historical importance and their literary merits are brought out. The course is an introduction to the language and style of Tacitus. Mj. ASSOCIATE PROFESSOR BEESON.

16. **Cicero: *Epistulae*.**—A study of the character and career of Cicero from the evidence afforded by the material contained in one hundred selected letters and from supplementary historical and biographical sources. The course also deals with the peculiarities of epistolary Latin and with the general subject of letter-writing in ancient Rome. Mj. ASSISTANT PROFESSOR BEESON.

17. **Ovid.**—Selections from *Epistulae*, *Amores*, *Fasti*, *Metamorphoses*, and *Tristia*. The object of the course is to make a general study of the life and works of Ovid and of his place in Roman literature. (Informal.) Mj. PROFESSOR MILLER.

18. **Seneca: *Tragedies*.**—The tragedies of Seneca will be studied for their style, as characteristic of the period, and their content; they will be compared with the corresponding Greek dramas, and their influence upon English drama will be touched upon. Three plays will be read from the Latin text and the remainder from an English translation. (Informal.) Mj. PROFESSOR MILLER.

19. **Horace: *Satires* and *Epistles*.**—Selected satires and epistles are carefully read and analyzed, with particular regard to argument, character portrayal, style, and their place in literature. (Informal.) Mj. PROFESSOR MILLER.

20. **Horace and Persius: *Satires*.**—A brief review of the predecessors of Horace in the field of satire, a reading of selected satires of Horace and Persius, with a study of the characteristic features of each. (Informal.) Mj. PROFESSOR MILLER.

21. **Juvenal.**—The object will be to present, through the study of selected satires, a picture of life and manners at Rome under the Early Empire. (Informal.) Mj. ASSOCIATE PROFESSOR BEESON.

22. **Topical Studies in the Works of Vergil.**—This course presupposes a considerable familiarity with Vergil on the part of the student. It is not a reading course, but the *Eclogues*, *Georgics*, and particularly the *Aeneid*, will be the field of investigation under various topics relating to different objects of study in the works of this author. A list of topics will be presented to the student, of which the following are typical: "Vergil's Verse and Its Metrical Peculiarities"; "Poetic Constructions in Vergil"; "Vergil as a Poet of Nature"; "The Aeneid as a National Epic"; "Vergil's Use of Metaphor and Simile." The student will be expected to select a certain number of these topics and, with them in mind, to go through the works of Vergil under direction of the instructor, collect all material bearing upon them, and present his results in finished form. The instructor will at all times furnish such aid as may be necessary and will criticize the results. (Informal.) Mj. PROFESSOR MILLER.

23. **Roman Conception of the Immortality of the Soul.**—This course is the study of a topic and is based for material upon a variety of authors: Cicero's *Tusculan Disputations*, i, *De Senectute*, *De Amicitia*, *Epistulae*; Vergil's *Aeneid*, Book vi; Horace's selected odes; Ovid, Seneca, Persius, etc. (Informal.) Mj. PROFESSOR MILLER.

24. Training Course for Teachers.—The object of the course is to give the teacher working alone and often at a distance from authorities an opportunity to appeal for assistance and advice along any lines connected with his teaching of Latin. Naturally there are some subjects which nearly all teachers find it profitable to take up in a somewhat formal way, e.g., pronunciation, translation, metrical reading, composition, etc. In addition to these, each teacher will have his own problems to discuss. The course is designed to meet these general and individual needs. (Informal.) Mj. PROFESSOR MILLER.

Members of the Latin Department will endeavor to arrange informal courses for students who are able to do work of an advanced nature, whenever practicable.

ROMANCE LANGUAGES AND LITERATURES

1. Elementary French.—In two Majors is offered the equivalent of the first year of high-school work in French. The writing of French is required from the beginning.

A. The aim is to acquaint the student with the essentials of French grammar, to enable him to turn short English sentences into idiomatic French, and vice versa, and to acquire some ability in translation. Mj.

B. This course (1) reviews and extends considerably the knowledge of grammatical principles and the irregular verbs acquired in the preceding Major; (2) fixes it by means of exercises in composition; and (3) through drill in translation develops in the student ability to read easy French at sight. Mj.

ASSISTANT PROFESSOR NEFF.

2. Intermediate French.—The work of this course follows immediately upon that of "Elementary French,—B." The books read deal with life in France and inform the student regarding the national traits and conditions. The exercises in composition take the form sometimes of a résumé of the text read, sometimes of reproduction in French of exercises based on the text. The grammar is studied inductively. Mj. ASSISTANT PROFESSOR NEFF.

3. Advanced French.—Idioms, synonyms, diction; (a) systematic review of elementary French grammar; (b) syntax; (c) reading: Mérimée, *La Chronique de Charles IX*; (d) composition based on the reading. Prerequisite: course 2. Mj. ASSISTANT PROFESSOR DAVID.

4. French Reading.—(A. *Modern Novels*, or B. *Modern Dramas*.)

A. *Modern Novels*.—Anatole France, *Le Crime de Sylvestre Bonnard*; Honoré de Balzac, *Eugénie Grandet*; George Sand, *La Mare au Diable*. Criticism of the novel. Prerequisite: course 3. Mj.

B. *Modern Dramas*.—V. Hugo, *Hernani*; E. Augier, *Le Gendre de M. Poirier*; A. Dumas fils, *La Question d'Argent*; E. Rostand, *Cyrano de Bergerac*. Criticism of the drama. Prerequisite: course 3. Mj.

ASSISTANT PROFESSOR DAVID.

5. Advanced French Reading.—(A. *Modern Dramas and Lyrics*, or B. *Modern Novels and Lyrics*.)

A. *Modern Dramas and Lyrics*.—The work will be based on the dramas of 4B and selections from the lyric poets, especially Chénier, Lamartine, Musset, Victor Hugo; versification; criticism of lyric poetry. Prerequisite: course 4A. Mj.

B. *Modern Novels and Lyrics*.—The work will be based on the novels of 4A and selections from the lyric poets, especially Chénier, Lamartine, Musset, Victor Hugo; versification; criticism of lyric poetry. Prerequisite: course 4B. Mj.

ASSISTANT PROFESSOR DAVID.

NOTE.—If A has been chosen in course 4, A of course 5 must be chosen; if B of course 4, B of course 5 must be chosen.

6. Cours de Style.—Principes généraux, exercices pratiques de composition française. Prerequisite: 6 Majors of French or the equivalent. Mj. ASSISTANT PROFESSOR DAVID.

7. Introduction to the Study of French Literature.—A general survey of French literary activity from 1600 to 1850. Prerequisite: 6 Majors of French or the equivalent. Mj. ASSISTANT PROFESSOR DAVID.

8. Molière and the French Comedy in the Seventeenth and Eighteenth Centuries.—

A. *Molière and His Contemporaries.* (Seventeenth century.) Mj.

B. *Molière's Successors.* (Eighteenth century.) Mj.

These two majors include a study of the lives of the principal authors, their influence on the theater, with intensive study of the following plays: (a) Corneille, *Le Menteur*; Molière, *Les Précieuses Ridicules*, *Tartuffe*, *Le Misanthrope*, *L'Avare*, *La Critique de l'Ecole des Femmes*, *Le Bourgeois Gentilhomme*, *les Fourberies de Scapin*, *Don Juan*, *Les Femmes Savantes*, *Le Malade Imaginaire*; (b) Regnard, *Le Légataire Universel*, *Le Joueur*, *Les Folies Amoureuses*; Lesage, *Turcaret*; Marivaux, *Le Jeu de l'Amour et du Hasard*, *Le Legs*, *L'Épreuve*, *Les Fausses Confidences*; Destouches, *Le Philosophe Marié*; Gresset, *Le Méchant*; Beaumarchais, *Le Barbier de Séville*, *Le Mariage de Figaro*. This is intended to familiarize the student with the masterpieces of classical comedy. Constant comparison will be made between the language of these writers and that of today, and the most unusual constructions will receive consideration. The work is conducted wholly in French. Prerequisite: course 7 or its equivalent.

ASSISTANT PROFESSOR DAVID.

9. Molière.—A critical study of all the plays of the great writer. All the reports must be written in French. This secures to the student a thorough course in advanced French composition as well as a comprehensive knowledge of Molière's work. Prerequisite: 9 Majors of French. Mj. ASSISTANT PROFESSOR DAVID.

10. Old French (elementary course).—The importance of some historical knowledge of French as a part of the teacher's equipment is generally recognized. Old French is also an indispensable language for research in the modern literatures. This course corresponds to course 76 in residence and may be taken to advantage by students looking forward to resident graduate work. A reading knowledge of modern French is necessary, and some knowledge of German and Latin is desirable. Texts: *La Chanson de Roland*; *Aucassin et Nicolette*; *Erec et Enide*; *La Representation d'Adam*. For reference: Nyrop, *Grammaire historique de la langue française*, Vols. I-IV. Mj. PROFESSOR JENKINS.

11. Elementary Italian.—This course is devoted chiefly to the study of Italian grammar. It includes practice in composition and in translation. The lessons are based on Grandgent's *Italian Grammar* (new edition, with Wilkins' *Lessons and Exercises*), Wilkins' *Notes on Italian Grammar*, and Wilkins' and Altrocchi's *Italian Short Stories*. Mj. PROFESSOR WILKINS.

12. Intermediate Italian.—The main object of this course is to enable the student to understand written Italian thoroughly and readily. The work is chiefly in translation. Goldoni's *La locandiera* and part of Manzoni's *I promessi sposi* are read as carefully as possible, and one or two other books are assigned for more rapid reading. The course includes also some practice in composition. Prerequisite: course 11 or its equivalent. Mj. PROFESSOR WILKINS.

13. Elementary Spanish.—This course is designed to enable the student to attain a clear conception of the fundamental principles of Spanish grammar and syntax. All the lessons furnish practice in turning Spanish into English and English into Spanish. Mj. ASSISTANT PROFESSOR CALDERWOOD.

14. Intermediate Spanish.—This course consists of: (1) a more detailed study of the principles of Spanish grammar, as presented in Ramsey's *Textbook of Modern Spanish*; (2) the writing of sentences illustrating these principles; (3) the careful reading of about 350 pages of simple Spanish prose, including Padre Isla's version of *Gil Blas*, Hill's *Spanish Tales for Beginners*, and *Zaragüeta* by Carrión-Aza, special attention being directed to points of syntax, idiomatic expressions, and synonyms; and (4) exercises in prose composition based on the reading assignments. Prerequisite: course 13 or its equivalent. Mj. ASSISTANT PROFESSOR CALDERWOOD.

15. Spanish Prose Composition.—This course is designed to give the student a practical command of Spanish as a medium of expression. It may be varied to adapt it to the needs of the student, now tending more to commercial forms of composition, now to those forms used in literature or by the traveler. Prerequisite: course 13 or its equivalent. Mj. ASSISTANT PROFESSOR CALDERWOOD.

16. Modern Spanish Novels and Dramas.—This course is intended to fit students for the appreciative reading of the best modern Spanish literature. It includes the careful reading of about 450 pages of fairly difficult modern Spanish prose and verse, including *La Familia de Alvarado* by Fernán Caballero, *José* by Palacio Valdés, and *Guzmán el Bueno* by Gil y Zárate, special attention being directed to: (1) the more difficult points of syntax; (2) translation into Spanish of selections based on the reading; and (3) abstracts of the reading assignments to be written in Spanish. Prerequisite: course 14 or its equivalent. Mj. ASSISTANT PROFESSOR CALDERWOOD.

17. Don Quixote.—This is mainly an interpretative and critical reading course, embracing the first fourteen chapters of the first part and the first ten chapters of the second part of *Don Quixote*. The life of Cervantes and the literary movement of his time will be noticed. In the reading the peculiarities of syntax, style, and diction, as compared with later Spanish, will be studied. A bibliography of the more important works will be given, enabling the student who may wish to make a more extensive study of the author to do so. Prerequisite: course 16 or its equivalent. Mj. ASSISTANT PROFESSOR CALDERWOOD.

GERMANIC LANGUAGES AND LITERATURES

1. Elementary German.—In two Majors is offered the equivalent of the first year of high-school work in German. The writing of German is required from the beginning.

A. This course aims to ground the student in the essentials of German grammar through the reading of easy idiomatic German and exercises in which special attention is given to the construction of the verb, noun, and adjective. Mj.

B. Continues and extends A to include the passive voice and the subjunctive, and calls for extensive reading of easy prose. Mj.

ASSISTANT PROFESSOR VON NOÉ.

2. Review of First-Year German.—The course provides a thorough review of as much of the elementary grammar and syntax of the language as is usually presented in the first year of standard high-school work. It will appeal especially to students who desire to renew their acquaintance with the fundamentals preparatory to further study of German and to those who have acquired their knowledge of the tongue by some natural method. [This course is interpolated in the regular sequence and does not command credit: the charge for it is \$16.00 regardless of combination.] ASSISTANT PROFESSOR GRONOW.

3. Intermediate German.—Devoted primarily to the reading of easy modern prose and incidentally to a rapid review of elementary German grammar. The text read will always serve as the drill-ground for grammar work. Attention will be directed constantly to German idiom, and from time to time the student will be required to reproduce in German what he has read. In the composition work emphasis will be laid upon word-order and sentence-structure, the knowledge of which is essential to the proper appreciation of the language. Mj. ASSISTANT PROFESSOR GRONOW.

4. Elementary Prose Composition.—Through the reproduction of ordinary narrative English into German and by means of original composition the student is led to appreciate the difference between English and German idiom. The course also provides a comprehensive review of the grammar and syntax of the language. Mj. ASSISTANT PROFESSOR GRONOW.

5. German Idioms and Synonyms.—The course comprises the study of: (1) the method of word-formation; (2) grammatical idioms; (3) synonyms,

together with a thorough review of syntax. Attention is given to German-English cognates. Composition based upon selected modern German prose affords the basis of instruction. The course will be helpful to those who teach the language in secondary schools. Mj. ASSISTANT PROFESSOR GRONOW.

6. Modern German Plays.—This is primarily a reading course corresponding to course 6 in residence. It aims at the acquisition of the foundations of idiomatic German on the basis of the language of the dramas read. A short theme in German on the subject chosen from the reading is required with each lesson. Mj. DR. PHILLIPSON.

7. Scientific German.—The aim of the course is to enable the student to read German scientific prose. It has the same prerequisites as the preceding course. Short exercises in German composition connected with the text are required. Mj. ASSISTANT PROFESSOR VON NOÉ.

8. Deutsche Aufsätze und Stilübungen.—An advanced course in composition corresponding to course 11 in residence. It includes a study of masterpieces of the best German stylists and the criticism and development of graded themes. The theme subjects deal with German life, history, and literature. The aim of the course is to develop the student's ability in essay-writing. Of special value to teachers. Mj. ASSISTANT PROFESSOR VON NOÉ.

9. Introduction to the Study of German Literature.—This course covers the ground of course 40 (A, B, and C) in residence, the first required course in German literature. Through a critical study of representative masterpieces and supplementary readings the student is introduced to the whole range of the literature and furnished some knowledge of the notable movements in it. The course is divided into two parts, either of which may be taken without the other. Prerequisite for either Major: course 8 or its equivalent.

A. This covers the field of German literature from the earliest times through Lessing. The selections from Old High German and Middle High German literature will be read in modern German translations. Mj.

B. This is a continuation of A and follows the same general plan. The works to be studied are chosen from Goethe, Schiller, Kleist, Heine, Eichendorff, Grillparzer, Hauptmann, and Sudermann. Mj.

DR. PHILLIPSON.

10. The German Short Story.—The development of the short story (*Novelle*) into an art form is one of the most interesting phenomena of nineteenth-century literature. The study of this evolution in Germany, together with the various forms of the short story extant—the dramatic, the lyric, the historical, the social, etc.—is the object of this course. The student will read, under guidance, selected stories of Kleist, Tieck, Hoffmann, Riehl, Auerbach, Rosegger, Meyer, Keller, Fontane, Liliencron, and others. Reports and essays (in German) will be required. This course may be taken by anyone who has a fair reading and writing knowledge of German. Mj. DR. VON KLENZE.

11. Heine's Prose and Poetry.—The reading of the larger part of the lyrics, the dramas, and the *Reisebilder* will be accompanied by a study of the author's life and the general tendencies of the Romantic movement, and by investigations into the poet's sources and literary technique. The course covers the ground of course 42 in residence. Prerequisite: course 9B or its equivalent. Mj. DR. PHILLIPSON.

12. Goethe's Lyric Poetry as an Exponent of His Life.—No writer so minutely reflects his moral and intellectual growth in his lyric poetry as does Goethe. A chronological study of his lyrics affords, therefore, a subtle appreciation of his whole individuality. The student will pursue a study of the standard biographies of Goethe, together with his letters and autobiographical writings, while at the same time reading carefully the lyrics written during each period of his life. Essays in German are required throughout the course. Mj. DR. VON KLENZE.

13. Friedrich Hebbel: A Study of Modern German Drama.—Hebbel was one of the most powerful individualities of the nineteenth century and one of the most significant figures of German literature. His drama is the expression of new principles in dramatic literature, which many years later appeared in modified form in the social dramas of Ibsen. A comparison of conceptions of tragedy as found in the classic drama of the Greeks, in the Shakspearean drama, and in the work of modern playwrights will be made in order to define as clearly as possible Hebbel's contribution. Mj. DR. VON KLENZE.

14. Deutscher Satzbau und Stil.—A sequent to "Deutsche Aufsätze und Stilübungen," corresponding to course 101 in residence. Several long themes of the type of term papers are required. Prerequisite: course 8 or its equivalent. Mj. ASSISTANT PROFESSOR VON NOÉ.

15. The Modern German Essay.—A study of the literary and historical essay of the nineteenth century combined with practical exercises in which the student will be expected to reproduce the style and diction of the authors studied. The course corresponds to course 214 in residence and is open to those who have passed creditably "Deutsche Aufsätze und Stilübungen" and "Deutscher Satzbau und Stil" or have had equivalent training in German theme-writing. Of special value to graduate students and teachers who aim to acquire a high degree of efficiency in German essay-writing. Mj. ASSISTANT PROFESSOR VON NOÉ.

16. Outline History of German Literature.—

A. Includes a survey of the development of German literature from the scanty remnants of the earliest period of tribal migrations, heroic romances, and early ballads, through the first period of efflorescence—the twelfth and thirteenth centuries with their troubadours and national epics; the period of Humanism and the Reformation, up to the second period of efflorescence—the eighteenth century. Mj.

B. Aims at a more detailed study of prominent writers of the eighteenth century; the Romantic Movement with its best representatives, and the most characteristic novelists, dramatists, and lyricists of the nineteenth century. A is not prerequisite to B. Mj.

DR. VON KLENZE.

NOTE.—Prerequisites for both A and B: Students taking either one of these courses must have a good reading knowledge of German as well as the ability to write it with some ease. It is advisable that at least one of the courses in some special field of German literature, like "The Short Story," or "Goethe's Lyrics," or their equivalents, should precede this course.

17. The Literary Relations between England and Germany in the Eighteenth Century.—This course, which corresponds to course 190 in residence, should appeal especially to those students who make English their Minor and to those who make English their Major and German their Minor. The main subjects treated are Addison's *Spectator* and its numerous German imitations; Milton's influence; the influence of English satire in Germany; the part Shakspeare played in the old German drama and dramatic criticism, especially in the case of Lessing and the Storm and Stress; Pope, Young, Thomson, and Dryden; Ossian and Percy's *Reliques*; the *Robinsonaden*; the imitations of Sterne, Richardson, and Fielding; the countercurrent during the last two decades of the century, especially Bürger's *Lenore*, Schiller's *Räuber*, and Goethe. Mj. ASSISTANT PROFESSOR VON NOÉ.

18. Contemporary German Literature.—The course is designed to give the student an appreciation of current German Literature and to introduce him to the modern literary tendencies of the Fatherland. Representative novelists, dramatists, and lyric poets are studied. This course presupposes a good reading knowledge of German. Mj. or DMj. ASSISTANT PROFESSOR VON NOÉ.

19. Gothic.—A consideration of Gothic phonology, morphology, and syntax in connection with the reading of selections from the Bible translation of Wulfila. Intended as a review course or for those who have had philological training. Mj. PROFESSOR WOOD.

20. Old High German.—The reading of selections from Braune's *Althochdeutsches Lesebuch*, with reference to the same author's *Abriss der althochdeutschen Grammatik*. This course is a natural sequent of course 19. Prerequisite: course 19 or its equivalent. Mj. PROFESSOR WOOD.

21. Old Saxon.—The work will be based on Holthausen's *Altsächsisches Elementarbuch*. Open to those who have had courses 19 and 20 or their equivalent. Mj. PROFESSOR WOOD.

22. Old Norse-Icelandic Prose.—The purpose of the course is to offer students who have had a beginning course in Icelandic an opportunity to learn to read Icelandic prose readily. An annotated saga text providing about three hundred pages of reading matter is selected, and the student is asked to read, in addition, on the antiquarian and literary problems involved. During 1916-17 the *Egils saga Skallagrímssonar* will be read. Zoëga's *Old Icelandic Dictionary* is recommended. Prerequisite: residence course 112 or its equivalent; a beginner's course involving a historical study of the sounds and inflections of the language and the reading of about 40 pages of Old Icelandic prose. This prerequisite course must itself be preceded by "Gothic." Mj. ASSISTANT PROFESSOR GOULD.

German Literature in English.—(Cf. description under General Literature 6.) Mj. DR. PHILLIPSON.

SCHOOL OF EDUCATION

23. The Teaching of German in Secondary Schools.—The method of teaching German in high schools and academies has undergone radical changes within the last few years. The object of this course is: (1) to make the teacher acquainted with the new methods and their application to the teaching of pronunciation, grammar, composition, reading, and translation; (2) to furnish him an opportunity to discuss his particular problems. Mj. ASSISTANT PROFESSOR GRONOW.

THE ENGLISH LANGUAGE AND LITERATURE

ELEMENTARY

1. English Grammar.—An elementary course in practical English grammar, assuming no technical knowledge of the subject, and intended for students who need instruction or review in the fundamental principles of the language, especially with relation to the correct combination of words in sentences. In some cases this course will be desirable as preparation for the following composition courses. [This course commands no credit: the charge for it is \$16.00. For "English Grammar for Teachers" see course 37 below.] ASSOCIATE PROFESSOR MARSH.

ACADEMY

2. Preparatory English Composition.—

A. A simple introduction to English composition, intended mainly for the following classes of students: (1) those who have had no formal training in the subject; (2) foreigners with some knowledge of grammar, but without much experience in writing the language; (3) any persons who are not properly prepared for a more advanced course. The work is roughly equivalent to the composition requirements of the first two years of a good high school, consisting in the writing of simple themes based mainly on the student's own experience and observation and the preparation of exercises illustrating the simpler rhetorical principles. For credit see note below. Mj.

B. A more advanced course than the foregoing, substantially equivalent to the composition work of the last two years in a good high school, and definitely intended to prepare for college composition. Teachers in secondary schools

also may find the course helpful in their work. Business and professional men whose early training has been deficient can gain valuable experience in practical composition from this course or the foregoing, according to the extent of their training. The work consists of exercises illustrating all the main principles of rhetoric and themes of a somewhat more difficult type than those asked for in course A. For credit see note below. Mj.

ASSOCIATE PROFESSOR MARSH AND MR. CHERINGTON.

3. Preparatory English Literature.—In two Majors the works in English and American literature required for admission to college will be studied. The aim, however, is to make the courses valuable, not only to students preparing for college, but also (1) to teachers of English in preparatory schools, and (2) to all persons who wish to take up, either for the first time or by way of review, the more simple and concrete phases of the study of literature. Those who desire the entire high-school work in masterpieces should register for the two Majors in succession; those who wish to take the work for review, or to obtain help in methods of teaching the masterpieces, may choose for themselves. For credit see note below.

A. This course will cover approximately the work in literature of the first two years of the high school, with study of the simpler masterpieces among those listed "for reading" in the list of college-entrance requirements. Mj.

B. In this course the masterpieces listed "for study" will be emphasized, with attention also to some of the more difficult books among those listed "for reading." The work is approximately that of the last two years of high school and directly preparatory for college. Mj.

ASSOCIATE PROFESSOR MARSH AND MR. CHERINGTON.

NOTE.—Students who satisfactorily complete and pass the A's of both "Preparatory English Composition" and "Preparatory English Literature" will receive credit for the second of the three units in English required for entrance to college; those who satisfactorily complete and pass the two B's will receive credit for the third of the three units.

Commercial Correspondence.—(Cf. description under English 42.) Mj. ASSOCIATE PROFESSOR LYMAN.

COLLEGE

4. English I.—This is designed to be a full equivalent of English 1 (the first course in English composition and rhetoric required of all students in residence) and commands corresponding credit. It presupposes the ordinary training in English composition received in a good high school and represented in a general way by the preceding courses. More detailed study of the principles of rhetoric, as presented in a more advanced textbook, is made, and a higher standard of theme work on a variety of topics, usually chosen (subject to certain limitations) by the student himself, is expected. The emphasis throughout is placed upon writing of the most practical sort. A volume of prose selections is also used. Mj. ASSOCIATE PROFESSOR MARSH.

5. English III.—This course is designed to be a full equivalent of English 3 (the second course in English rhetoric and composition required of all students in residence) and commands corresponding credit. The course aims: (1) to give training in structure, and (2) to give instruction and practice in the four forms of composition—exposition, argumentation, description, and narration. To these ends a textbook is required, lesson papers must be submitted, and a final examination taken. The written work will consist of six long themes, each from 1,500 to 3,000 words in length, and twelve short themes of from 100 to 200 words each, in addition to exercises based on the textbook. Students may gain admittance to the course by passing creditably "English I" or by submitting to the instructor an original exposition or argument showing ability. Mj. ASSISTANT PROFESSOR HULBERT.

6. English IV.—

A. *Exposition—Argument*.¹—Instruction will be given in pure argument, in the technique of debate, and in persuasive exposition. The work consists of: (1) the writing of papers on the theory of these forms of composition, and (2) the writing of two briefs, two arguments, and two expositions. Mj. ASSOCIATE PROFESSOR LYMAN.

B. *Story-Writing*.¹—A course of two Majors replacing the single Major entitled "Narrative and Descriptive Writing" as formerly given. It is designed to teach the principles of story-writing with particular reference to the short story. The textbook has been prepared by Mr. Grabo to meet the particular needs of correspondence-study students.

1. Includes: an autobiography; exercises to bring out the essentials of narrative; exercises in the point of view; exercises in the study of the unities of action, time, and place; exercises and studies in exposition and preparation; a study of short-story introductions; study of and exercises in character drawing; descriptions of persons and places; a study of the writing of dialogue. Original character sketches, descriptions, themes in dialogue, and several short stories will be demanded in this half of the course. It aims to bring out the fundamentals of story structure and is designed for those who desire to write either short stories or novels. Considerable reading in specified standard novels and short stories is demanded. Mj.

2. Continues 1 and takes up: a study of story ideas; construction of plots to illustrate various types of stories; a consideration of titles and the names of characters; a study of suggestion and restraint; a study of unity of tone; a study of the psychology of story-writing. In this Major more analyses of stories are asked for than in the first; more attention is paid to the development of plot, and more original work in the short story is expected. Reading of short stories and novels is required—a bibliography of these is furnished with the lessons. Prerequisite: English IVB-1; but those who have received credit for "Narrative and Descriptive Writing," the English IVB of preceding years, will be permitted to register for this Major. Mj.

MR. GRABO.

C. *Journalistic Writing*.¹—Study is made of the News Story, the Book Review, the Editorial, and the Feature Story. The forty lessons constituting the course include: (1) critical exercises, and (2) original work upon topics assigned by the instructor or approved by him from lists submitted by the student. A text is used as a basis for a part of the work. The student is expected to study the form of news stories and editorials in at least one good newspaper, to follow current topics in several of the best magazines, and to gather some of the material for his papers (notably the feature stories) from first-hand observation. Mj. MR. GRABO.

7. English V.—*Magazine Writing*.¹—A course of forty lessons embracing the study and the writing of the Special Article, Literary Criticism, and the Personal Essay. The student will be required to read examples of these forms and to submit analyses of them. A volume of selected essays will serve as a text for the latter part of the course. Mj. MR. GRABO.

8. English VI.—*Advanced Composition*.—For students who have credit for a Major of "English IV" or for "English V" and who are desirous of receiving criticism upon essays, stories, or articles. There are no lessons or exercises, the sole requirement being that the student submit 30,000 words of original matter. The initiative lies solely with the student; the instructor confines himself to criticism and advice. It is essential that any student entering this course have definite work in mind. Others than graduates of "English IV" or "English V" will be admitted only upon the submission of MS displaying a technique adequate to the course. Mj. MR. GRABO.

¹This course is open to others than graduates of "English III" who can present evidence, in the form of a statement of previous work and original productions, that they are prepared for it.

9. Versification.—This course is offered for students interested in the technique of English verse. It cannot be expected that such a course will develop finished poets. But it is offered for the purpose: (1) of training students in versifying, and (2) of giving them an understanding of the technique of verse, and hence increasing their appreciation of English poetry. The prime requisite in the student is that he have an interest in the subject, not that he have any special ability to write verse. To accomplish the purposes of the course, the student will study a textbook, make certain analyses of pieces of English verse, and write original verse of different types. Prerequisite: "English I" or its equivalent. M. ASSISTANT PROFESSOR HULBERT.

10. Proofreading.—The course aims to equip the student with a knowledge of the practical details of typography, such as size of type, the methods employed by printers in composition, the niceties of spacing, and the work actually done by the printer in correcting proofs; to train the eye, the mind, and the memory in the application of consistent standards and the enforcement of rules of "style." With this groundwork the student is taught that proofreading is not merely a correction of misspelled words, but a profession calling for the use of a wide range of faculties, of individuality, and of independent judgment. The instruction includes actual reading of proof and a practical application of theoretical details. Prerequisite: "English I" or an equivalent course. M. DR. POWELL.

11. Copy-Editing.—A practical course designed especially for those desiring to equip themselves for secretarial duties, or for filling the position of "copy-editor," and for writers and others whose work brings them in contact with printing and publishing houses. The student is trained to decide how his own manuscript, or the work of others passing through his hands, should be treated and arranged for the printer, and is taught how to prescribe the appropriate typographical treatment for any class of "copy." Drill in all the practical details as well as the intellectual features of writing, by means of actual practice with all sorts of "copy," is a feature of the course. Prerequisite: course 10. M. DR. POWELL.

12. The Forms of Public Address.—This course, though prepared especially for teachers of English interested in the oral side of the work, is intended also for students of public speaking. It gives training in the most essential principles of constructive thinking, writing, and speaking, and includes gathering of information, organizing it for a definite purpose, and presenting it to meet varying conditions. It also embraces a study of the most common fallacies. In these ways the problem of organizing one's thought for public presentation, either in speech or in writing, is approached inductively through the careful analysis of certain masterpieces of public address. Among the forms studied are the following: the argument, the eulogy, the editorial, the commemorative address, the dedication, the toast, the after-dinner speech. Each student will be allowed reasonable leeway in selecting the particular form or forms of address he wishes to study intensively. Prerequisite: "English I" or its equivalent. Mj. ASSOCIATE PROFESSOR LYMAN.

13. The Development of English Literature.—This course is designed to be the full equivalent of course 40 in residence, the first required course in English literature. It introduces the student to the whole range of English literature by requiring the reading of selected masterpieces from *Beowulf* to the present time. Selections from English authors, both of prose and poetry, and a short history of English literature are used as the basis of study. The aim is: (1) to give the student first-hand acquaintance with typical parts of the work of each of the leading English writers; (2) to study the place of the masterpieces in the development of English literature in their relation not only to one another but also to historic events and conditions; (3) to give the student the foundation for an appreciation of literature. The course as a whole affords a broad introduction to the more detailed and critical study undertaken in course 16, "English Literature by Periods." Mj. ASSOCIATE PROFESSOR MARSH.

14. An Introduction to American Literature.—A series of studies of American life in American literature. The first few lessons are given over to pre-Revolutionary literature for the purpose of observing the earliest departures from English models and traditions. Chief emphasis is, however, thrown on the poets, essayists, and novelists of the nineteenth century. While the aim of the course is to put the student in the way of obtaining a preliminary acquaintance with the subject as a whole, assigned readings are restricted to selected works of twelve or fifteen representative men of letters, from Irving and Cooper to Lanier and Whitman. Mj. ASSISTANT PROFESSOR DAVENPORT.

NOTE.—For admission to any one of the following courses, course 13 or its equivalent is prerequisite.

15. An Introduction to the Study of Shakspeare.—This course, corresponding to course 41 in residence, is planned to give the student a knowledge of Shakspeare's life and work, a familiarity with typical plays of the various periods in his dramatic career, some acquaintance with his relation to his age and its literature, and an introduction to the field of Shakspearean criticism and scholarship. The following plays will be studied: *Richard III*, *A Midsummer-Night's Dream*, *Romeo and Juliet*, *I Henry IV*, *Much Ado about Nothing*, *Twelfth Night*, *Hamlet*, *King Lear*, *Antony and Cleopatra*, and *The Tempest*. Mj. ASSOCIATE PROFESSOR BASKERVILL AND MRS. BASKERVILL.

16. English Literature by Periods.—A series of reading courses, corresponding to courses 42–48 in residence, which cover with some minuteness the history of English literature from the middle of the sixteenth century down to 1892. In each Major the work consists mainly in the reading of a large number of representative masterpieces of the period and the preparation of answers to questions based upon this reading. Textbook work in a literary history of each period is assigned and the lesson sheets furnish much supplementary material, such as bibliographies of the required authors, suggestions for study of their principal works, etc. It is not necessary that the series be taken in chronological order, as each course is complete in itself; but those intending to take the whole series are advised to follow the chronological order. The series as a whole is designed to give first-hand knowledge of the chief masterpieces of modern English literature, excepting only Shakspeare's works, which are treated in special courses. Persons who have had course 13 or its equivalent, and who desire to do systematic reading of English literature without regard to college credit, may also arrange for any of these courses.

A. *English Literature from 1557 to 1642.*—Reading from Spenser (at least one book of the *Faerie Queene* and various shorter poems), Wyatt, Surrey, Sackville, Sidney, Herrick, Milton (minor poems), and other poets; plays by Marlowe, Jonson, Beaumont and Fletcher, and lesser dramatists both before and after Shakspeare; Ascham's *Schoolmaster*, portions of Lyly's *Euphues* and other works of fiction, Sidney's *Defence of Poesie*, Bacon, Raleigh, and Sir Thomas Browne. Mj.

B. *English Literature from 1642 to 1744.*—Reading of representative prose works of Milton, Taylor, Walton, Pepys, Clarendon, Bunyan, Dryden, Addison, Steele, Defoe, and Swift; poems of Milton (four books of *Paradise Lost*, *Samson Agonistes*, etc.), Dryden, Pope, Thomson, and numerous minor poets; plays by Dryden, Otway, Congreve, Wycherley, and other Restoration dramatists. Mj.

C. *English Literature from 1744 to 1798.*—Reading of novels by Richardson, Fielding, Smollett, Sterne, Johnson, Goldsmith, the so-called "Gothic" romancers, and Fanny Burney; miscellaneous prose by Johnson, Goldsmith, Boswell, Gibbon, and Burke; poems by Gray, Collins, Goldsmith, Chatterton, Blake, Cowper, Crabbe, Burns, and others; plays by Goldsmith and Sheridan. Mj.

D. *English Literature from 1798 to 1832.*—Poems by Wordsworth, Coleridge, Southey, Scott, Campbell, Moore, Byron, Shelley, Keats, Hunt, Hood, Landor; novels by Scott and Jane Austen; miscellaneous prose by Coleridge, Lamb, Hazlitt, DeQuincey, the reviewers, etc. Mj.

E. English Literature from 1832 to 1892.—Reading of numerous poems by Tennyson, the Brownings, Matthew Arnold, Clough, the Rossettis, Swinburne, Morris, and others; novels by Dickens, Thackeray, Charlotte Brontë, George Eliot, Meredith, Hardy, and Stevenson; miscellaneous prose by Carlyle, Macaulay, Newman, Arnold, Pater, Ruskin, and Stevenson. Mj.

ASSOCIATE PROFESSOR MARSH.

Courses A-E (or their equivalents) are required of all candidates for the Doctor's degree in English, and at least four of them (or equivalents) for the Master's degree. Hence, though a year of resident study is required for the Master's degree, students may take these required courses by correspondence and later do more highly specialized work in residence. Graduate credit will be given to properly prepared students who do creditable work in their recitation papers and pass the final examination given on each course. Students not entitled to graduate credit, moreover, may register for any of the courses, the only prerequisite being course 13 or its equivalent.

17. The History of the English Language.—This course is offered in the belief that an understanding of what language is and of what the history of the mother-tongue has been is as important as a study of some part of its literature and indispensable to the latter study. It attempts to give a general survey of the development of the English language; its relation to other languages; the chief periods; the development of forms, sounds, and meanings, and foreign influences. Prerequisite: "English III" or two years of college work. Mj. ASSISTANT PROFESSOR HULBERT.

18. The Growth of the English Novel.—The historical development of narrative prose fiction in English is traced in outline from the later mediaeval prose romancers and story-tellers to the beginning of the twentieth century. A brief preliminary review of the field of fiction is attempted in the initial lessons—the qualities shared by novelist and poet, the material common to both, the similarities in general construction of the novel and drama, and throughout the continental influences are noted, sources inquired into, and the modifications in structure and content of the novel in succeeding periods are indicated. Illustrations of the various aspects and principles of the art of fiction are drawn from the representative works selected.

A. From Sir Thomas Malory to Oliver Goldsmith.—In this course one work of each of the following authors is read: Malory, Lyly, Sidney, Lodge, Greene, Nashe, Bunyan, Defoe, Swift, Richardson, Fielding, Smollett, Sterne, and Goldsmith. The character sketch of the seventeenth century and its extension, by Steele and Addison in *The Spectator*, are briefly dealt with, as are other literary forms which contributed to, or tended to shape, the modern novel. Mj.

B. From Mrs. Radcliffe and Godwin to Stevenson and Kipling.—Beginning with the reappearance in England of romantic prose fiction—the "School of Terror," or the "Gothic" romance, and the "School of Theory," doctrinaire or revolutionary—one work of each of the following authors is read: Walpole, Mrs. Radcliffe, Godwin, Fanny Burney, Maria Edgeworth, Jane Austen, Scott, Cooper, Hawthorne, Lytton, Dickens, Thackeray, Kingsley, Trollope, Reade, Charlotte Brontë, George Eliot, Meredith, Hardy, Stevenson, and Kipling. The course concludes with a brief consideration of fiction as affected by the scientific movement of the nineteenth century, particularly by physiology and psychology. Mj.

MRS. GRAHAM.

19. The Drama in England from 1500 to 1600.—This course, the equivalent of course 84 in residence, includes a brief introductory survey of the mediaeval drama, a more detailed consideration of Renaissance drama, with the development of new types and new theatrical conditions, and finally a study of the development of a native romantic drama as revealed in the work of Lyly, Peele, Kyd, Greene, and Marlowe. Mj. ASSOCIATE PROFESSOR BASKERVILL AND MRS. BASKERVILL.

20. The Drama in England from 1600 to 1642.—This course is the equivalent of course 85 in residence. It deals with the rise of the comedy of humors and of manners, with the perfection and decadence of tragedy, and with the later phases

of romantic comedy. Masterpieces of Jonson, Dekker, Heywood, Beaumont and Fletcher, Middleton, Webster, Massinger, Ford, and Shirley are studied, with attention not only to the characteristics of these writers but to their interrelations, their influence on the course of the drama, and their reflection of social conditions. Mj. ASSOCIATE PROFESSOR BASKERVILL AND MRS. BASKERVILL.

21. The Plays of Shakspeare.—In two Majors, corresponding to courses 70A and 70B in residence, is offered a rapid but fairly full survey of the plays of Shakspeare in chronological sequence. Attention will be directed to Shakspeare's handling of character and plot, to the development of his taste and technique, to the influence exerted upon his work by the literary and social trends of the time, and to evidence for dates, editions, sources, etc., for the individual plays.

A. *The Plays of Shakspeare from 1591 to 1599.*—This course, covering the plays through *Much Ado about Nothing*, includes the early tragedies and comedies, the chronicle plays, and the first masterpieces in comedy. The structure of comedy, the characteristics of witty comedy, Shakspeare's early style, and the reflection of social conditions in his comedies of this period are stressed. Mj.

B. *The Plays of Shakspeare from 1599 to 1611.*—This course, beginning with *Julius Caesar* and *As You Like It*, includes the chief tragedies, the Roman plays, and the comedies of the middle and later periods. Especial emphasis is laid on the structure and art of tragedy, on the satiric element in the earlier plays of this period, and on the dramatic seriousness of Shakspeare's work. Mj.

ASSOCIATE PROFESSOR BASKERVILL AND MRS. BASKERVILL.

NOTE.—Course 15 or its equivalent is a prerequisite for courses 19, 20, and 21. Students who wish to get a connected view of Renaissance drama are advised to take the sequence courses 19, 20, and 21.

22. The Life and Works of Spenser.—The course corresponds to course 69 in residence and is for advanced, though not necessarily graduate, students. The *Faerie Queene* and the minor poems; allegory; the poet's versification; his position and significance with respect to mediaevalism, the Renaissance, and especially Elizabethan poetry are considered. Mj. ASSISTANT PROFESSOR KNOTT.

23. The Life and Works of Wordsworth.—A more detailed examination of the poet's most significant work, especially the *Prelude* and the lyrical ballads, and their significance with relation to the Romantic Movement. Prerequisite: "English Literature by Periods—D." M. ASSISTANT PROFESSOR KNOTT.

24. The Works of Robert Browning.—The work of this "incorrigible optimist" offers unusual problems in subject-matter and in form. The peculiarities of his style and the varied forms in which he wrote present abundant material for the study of technique and of general principles of literary art.

A. *Studies in the Early Poems.*—This course gives detailed consideration to the poems published before 1868, thus including much of Browning's most characteristic and suggestive work. M.

B. *"The Ring and the Book" and Dramas.* M.

ASSISTANT PROFESSOR DAVENPORT.

25. Studies in the Poetry of Tennyson.—The course deals with the most significant works of this representative nineteenth-century poet. Especial attention is given to his place in the development of English poetry, to the characteristic qualities of his verse, and to his close relation to the general currents of thought in his time. The study includes the early poems, *Maud*, *In Memoriam*, *The Idylls of the King*, and minor poems. M. ASSISTANT PROFESSOR DAVENPORT.

26. Representative English Essayists of the Nineteenth Century.—An advanced undergraduate study of six essayists, including a brief preliminary discussion of the appearance in England of the essay and its development as a literary form. The work is based upon typical essays of Lamb, DeQuincey, Macaulay, Carlyle, Ruskin, and Arnold. The method of study is the biographical and historical and, to a limited extent, the philosophical. Emphasis is laid upon the intimate relation of literature to the forces of social life. Mj. MRS. GRAHAM.

27. The Makers of American Literature.—This course embraces a study of Emerson, Whittier, Longfellow, Lowell, Holmes, and Hawthorne—the representative writers of that period of intellectual activity in New England which roughly corresponds with the first half of the Victorian era. The various ways in which this activity expressed itself—in oratory, scholarship, Unitarianism, transcendentalism, and reform—are incidentally examined in so far as they affected or were affected by these writers. Sufficient attention is given to the general history of American literature to make this period intelligible to the student. Mj. MRS. GRAHAM.

28. The Short Story in English and American Literature.—In connection with a brief résumé of the history of the short story in England and America, students will read, critically, a number of representative stories by Irving, Hawthorne, Poe, Dickens, Bret Harte, Henry James, Page, Cable, Stockton, Davis, Mary E. Wilkins, Hardy, Doyle, Stevenson, Kipling, and others. The critical study will be devoted principally to investigation of the methods by which effectiveness is secured. Mj. ASSOCIATE PROFESSOR MARSH.

29. Modern Realistic Fiction.—This course is designed to present the content and method of a typical group of realistic novels. The following works, or their equivalents, will be read: George Eliot's *Silas Marner*, Hardy's *Tess of the D'Urbervilles*, Ward's *Lady Rose's Daughter*, Howells' *A Modern Instance*, Meredith's *The Egoist*, Tolstoi's *Anna Karenina*, Zola's *L'Assommoir*, Frenssen's *Jörn Uhl*, Barrie's *Tommy and Grizel*, Fogazzaro's *The Patriot*. Mj. ASSISTANT PROFESSOR DAVENPORT.

30. Types of Mediaeval Literature: A Literary and Sociological Study.—This course is not a survey of the historical development of mediaeval literature, but a study of characteristic examples of the literature of feudalism in relation to the social and economic background. It attacks the problem of how the literature of the Middle Ages—a period of status based on land—differs from that of recent times—a period of individualism, competition, money economy, and machine industry. Some attention will also be given to the characteristic literary forms. Prerequisite: D and E of "English Literature by Periods." Mj. ASSISTANT PROFESSOR DAVENPORT.

31. Contemporary Literature and Current Problems.—This course is designed as an untechnical survey of contemporary novels, plays, and essays that reflect the changing social, political, and ethical conventions of the day. Effort will be made to trace them, as far as possible, to such nineteenth-century influences as Nietzsche, Ibsen, Maeterlinck, Shaw, and the socialist, anarchist, and decadent movements. Particular attention will be paid to the conflict of ideas popularly embraced under the head of "feminism"; to the present resurgence of individualism; to the aesthetic problems of present-day realism. The course will be based upon typical works by such novelists as Bennett, Wells, Galsworthy in England, and Herrick, Edwards, Dreiser in America; by such dramatists as Barker and Houghton; by such essayists as Walter Lippman, Mrs. Gilman, Olive Schreiner, and Ellen Key. Although outlines will be used, anyone entering this course should be capable of forming independent judgments of the works studied. Mj. MRS. GRAHAM.

32. The Irish Literary Revival.—A study in the literature of the modern Celtic revival presupposes some acquaintance with Celtic myth, legend, and romance. The course, therefore, begins with this subject, following with the living folk literature, fairy tales, folk tales and songs, and then passing to the work of the modern poets and dramatists. Yeats, Synge, Hyde, Lady Gregory, Ethna Carberry, and other writers will be read. M. ASSISTANT PROFESSOR DAVENPORT.

33. The Principles of Literary Criticism.—This course presents and compares some of the most influential critical tenets; examines the relations of literature to other arts and the support given to criticism by recent studies in the psychology of artistic production. Mj. ASSISTANT PROFESSOR DAVENPORT.

34. Elementary Old English.—An introduction to the reading of Old English, corresponding in a general way to course 21 in residence. Mj. ASSOCIATE PROFESSOR MARSH.

35. Advanced Old English.—*Beowulf*.—An informal course in which the whole of the poem is read. Mj. ASSOCIATE PROFESSOR MARSH.

36. Introduction to Chaucer.—May be taken by students who have had no training in Middle English. Along with the reading of selected poems there will be study of the main facts regarding Chaucer and his works. Mj. ASSOCIATE PROFESSOR MARSH.

SCHOOL OF EDUCATION

37. English Grammar for Teachers.—A much more advanced course than the one numbered 1, above, presupposing a fairly good knowledge of the subject. The recommendations of the Joint Committee on Grammatical Nomenclature are embodied. Some stress will be laid on the textbooks available and on the problems with which teachers have to deal. Mj. ASSOCIATE PROFESSOR MARSH.

38. The Teaching of English in the Upper Grades of the Elementary School.—The course includes: (1) a survey of the literature for these grades which requires the rereading and discussion of a number of juvenile classics; (2) discussion of the principles that should guide the teacher in the choice of material; (3) methods of presenting certain selections in each grade; (4) the child's voluntary reading; (5) dramatization of scenes from literature and history. Composition is considered in its relation to the child's interests. The collection and organization of material relating to lessons in geography, history, civics, art, science, literature, and manual training are discussed. Textbooks, reading lists, and courses of study are examined. The student is directed to standard books and articles on the subject. Mj. MISS LALLY.

39. The Teaching of English Composition in Secondary Schools.—Deals with the general problems of composition in the high school. Among the topics considered are the following: aims, organization, criticism of themes, standardization, assignments, etc. The student is put in touch with the best books on teaching English, and is enabled to use his own classroom as a laboratory for the exercises and experiments required. In these ways the course is designed to co-ordinate closely with the daily duties of a student engaged in teaching. Mj. ASSOCIATE PROFESSOR LYMAN.

40. The Teaching of English Literature in Secondary Schools.—A survey course considering such topics as the reform movement, the modern point of view, the organization of the course of study, the basis of method, the teacher's preparation, etc. Adapted, as course 39, to the activities of the student's own classroom. May be elected by students not teaching if they have the opportunity to observe good teaching in neighboring high schools. Mj. ASSOCIATE PROFESSOR LYMAN.

41. The Teaching of Oral English in Secondary Schools.—

A. *Oral English.*—This course guides the student in his own oral work. It involves intensive consideration of good practices in reading and speaking, together with extensive practice in oral composition and in interpretative reading. M.

B. *High-School Problems.*—Considers such topics as oral contests, literary societies, reading clubs, dramatization, debating, etc. Treats of various phases of oral English, both as it supplements the regular classes in composition and in literature and as it is involved in classes devoted entirely to oral work. May also be elected to advantage by students engaged in teaching. M.

ASSOCIATE PROFESSOR LYMAN.

42. Commercial Correspondence.—A course in business-letter writing designed for teachers who are interested in the vocational and practical aspects of their subjects, especially teachers of English and of commercial branches. It is intended also for those who desire practical instruction in business writing. The course deals with the argumentative, persuasive,

rhetorical, and formal elements of commercial correspondence. Some of the topics considered are: how a letter is read; the value of paragraphing; the first sentence; mistakes in language; the negative and the positive suggestion. The following special forms are studied intensively from models: acknowledgments, remittances, notices of shipment, adjustment, credit, collection, recommendation, application, sales. Mj. ASSOCIATE PROFESSOR LYMAN.

Forms of Public Address.—(Cf. description under English 12.) Mj. ASSOCIATE PROFESSOR LYMAN.

NOTE.—Related courses are offered in General Literature and in School Library Economics.

GENERAL LITERATURE

This Department offers work to two distinct classes of students: (1) those doing graduate work in comparative literature, for whom a knowledge of the original languages and some previous training in literature are indispensable; (2) those doing undergraduate work, who wish to become acquainted with foreign literatures for the purpose of general culture, and for whom a reading knowledge of the original languages, though desirable, is not necessary. The courses presuppose "English 1" and "The Development of English Literature" or their equivalent.

1. Masterpieces in World Literature.—The aim of this course is to present the literature of the world as it is seen in perspective by English-speaking peoples. Moulton's *World Literature* will furnish the point of view and the historic and literary background for the course. This will be supplemented by the reading, wholly or in part, of selected masterpieces, among which will be the five literary Bibles theoretically treated in the textbook—the Holy Bible, Classic Epic and Tragedy, Shakspeare, Dante and Milton, and versions of the story of Faust. There will also be readings in comparative literature, studies in collateral literature, and a survey of strategic points in the development of literature as a science. As an equivalent to General Literature 1 in residence, it is primarily a college course, but it is also adapted to the needs of the general reader. Works not English will be read in translation. Books for the required reading may be found in any well-selected library or may be borrowed from the University by arrangement with the Director of the Libraries. Mj. PROFESSOR MOULTON and MISS SCHRADER.

2. The Literary Study of the (English) Bible.—This course is intended for those who teach or expound the Bible and for those who merely read it as a part of universal literature. The aim of the course is: (1) to familiarize the student with the literary forms found in the Scriptures, under the general divisions of Lyric Poetry, History with Epic, Wisdom Literature, Prophecy, and forms of Address; (2) to show how the separate books of the Bible when read in their literary sequence draw together with a literary connection like the unity of a dramatic plot. Moulton's *The Modern Reader's Bible*—in which the books of the Bible with three of the Apocrypha are edited in modern literary form—and Moulton's *The Literary Study of the Bible* are the required texts. Mj. PROFESSOR MOULTON and MISS SCHRADER.

3. Dante and Milton.—The purpose of this course is to familiarize the student with the special significance of Dante as an interpreter of Mediaeval Catholicism and of Milton as a revealer of Renaissance Protestantism. The study will include a brief survey of the life and early work of each of the poets, but emphasis will be placed upon the *Divina Commedia* and *Paradise Lost*, as these embody the spirit of progressive civilization. Special attention will be given to the structure of the poems as related to the matter presented; to the aspects of good and evil as interpreting the philosophical thought of Mediaevalism and the Renaissance, and to the elements of creative excellency, which give to both Dante and Milton a place among the supreme poets of the world. For the study of Dante, Plumptre's metrical translation is recommended, but the prose translation of C. E. Norton may be used; for the study of Milton the Cambridge edition of *Milton's Poetical Works* will be used. The required work

of the course is based upon matter contained in the texts, but bibliographies are included, and recommended readings are cited to aid the student who desires to supplement the required work with more exhaustive study. Mj. MISS SCHRADER.

4. **Studies in Modern Drama.**—In the drama produced in England and on the continent since Ibsen began to write, opportunity is offered for the study of some of the most significant and representative literature of our time. This course offers plays by Ibsen, Bjornsen, Strindberg, Sudermann, Hauptmann, D'Annunzio, Tchekhof, Phillips, Jones, Pinero, Shaw, Galsworthy, Moody, Rostand, Echegaray, Yeats, Synge, and Maeterlinck. Mj. ASSISTANT PROFESSOR DAVENPORT.

5. **Homer and Ancient Tragedy for English Readers.**—The aim of this course is to present Greek epic and tragedy from a purely literary point of view. It will include a study of the poetic heroes of the Argonautic Expedition and of the Trojan War. The works will be read in translation and in the order of the story sequence rather than in the chronological order of their authorship. Under the myth of the first generation *The Argonauts* of Apollonius, *Medea* of Euripides, and *Jason* of William Morris (a modern reconstruction) will be read. A larger selection of works will be included under the myth of the second generation, including the *Iliad*, the *Odyssey*, and tragedies of Aeschylus, Sophocles, and Euripides that touch the story of the Trojan War. Besides noting the place these works occupy in the progressive development of a story sequence, both epics and tragedies will be studied with reference to structure and general technique. Vergil's dependence upon Homer and his influence upon mediaeval literature will also be noted. Mj. PROFESSOR MOULTON AND MISS SCHRADER.

6. **German Literature (in English).**—This course attempts a survey of the principal movements in German literature from its first appearance to the present day. Representative authors are studied and constant attention is given to the connection of social and intellectual life with German poetry. Mj. DR. PHILLIPSON.

The Literary Relations between England and Germany in the Eighteenth Century.—(Cf. description under German 17.) If taken in this Department, only translations of German authors will be used. Mj. ASSISTANT PROFESSOR VON NOÉ.

Literature and History of the Arabs.—(Cf. description under Oriental Languages and Literatures 11.) Mj. ASSISTANT PROFESSOR SPRENGLING.

MATHEMATICS

ELEMENTARY

1. **Complete Arithmetic.**—This course is intended as a review of the general principles of arithmetic. While serving the student, it will be helpful to grade-teachers preparing for examination. Part I treats of general number, the four fundamental operations, factoring, fractions, and practical applications of denominate numbers. Part II drills upon the applications of percentage and actual methods of modern business. Part III considers ratio and proportion, powers and roots, mensuration, and the metric system. Numerous problems are given to illustrate all points. [This course does not command credit: the charge for it is \$16.00.] ASSOCIATE PROFESSOR LAVES.

ACADEMY

2. **Elementary Algebra.**—

A. This course is designed for beginners and deals in a very simple way with the elementary principles of algebra. It will prove especially helpful to high-school students who have found the subject a difficult one, since special emphasis is laid upon type-forms and modern methods of instruction. The principal topics discussed are: the four fundamental operations of algebra, solution of linear

equations and of systems of simultaneous linear equations, together with an introduction to the subject of graphs. [This course by itself does not command credit.] Mj.

B. This course presupposes A and deals with factoring, fractional and literal equations, involution, evolution, theory of exponents, radicals, graphics, quadratics involving one unknown quantity and simultaneous quadratic equations. Mj.

C. Continues B, taking up the general properties of quadratic equations, the binomial theorem, imaginary and complex numbers, an elementary study of determinants up to the fourth order, and ends with a general theory of equations. Mj.

ASSOCIATE PROFESSOR LAVES.

3. **Plane Geometry.**—The theory is well illustrated by numerous original exercises. The first Major comprises the first two books; the second, the remainder of plane geometry. DMj. ASSOCIATE PROFESSOR LAVES.

4. **Review of Elementary Mathematics.**—To meet the constant demand for help in reviewing elementary mathematics the following courses are offered. They are open to anyone who can present satisfactory evidence of a first study of the subject-matter, but because they presuppose this they do not command credit. The charge for tuition is \$16.00 per course regardless of combination.

A. *Algebra through Quadratics.*—The ground covered corresponds to that in Schultze's *Elementary Algebra* (pp. 1-331).

B. *Plane Geometry.*—The ground covered corresponds to that in Schultze and Sevenoak's *Plane and Solid Geometry* (Revised) (pp. 1-237).

ASSOCIATE PROFESSOR LAVES.

Descriptive Geometry.—A series of four Majors. (Cf. description under Drawing C, p. 68.) MR. FERSON.

COLLEGE

5. **Solid Geometry.**—Here, as in plane geometry, the main emphasis is laid on exercises calling for original work. Mj. ASSOCIATE PROFESSOR LAVES.

6. **Plane Trigonometry.**—Theory and practice in the solution of triangles by natural functions and logarithms. Applications to simple problems of surveying, physics, and astronomy. Properties of the trigonometric functions treated analytically and graphically. Applications to simple harmonic and wave motion. Mj. PROFESSOR WILCZYNSKI.

7. **College Algebra.**—The notion of variable and function and their geometric representation. Variation. Equations of the first degree and determinants. Quadratic equations, complex numbers, and theory of equations. Fractional and negative exponents, exponentials, and logarithms. Mathematical induction, binomial theorem, and progressions. Limits and infinite series. Undetermined coefficients, permutations, combinations, and probability. Mj. PROFESSOR WILCZYNSKI.

8. **Plane Analytic Geometry.**—Rectangular, oblique, and polar co-ordinates in the plane. The relation between a curve and its equation. The algebra of a variable pair of numbers and the geometry of a moving point. Specific applications to the properties of straight lines, circles, conic sections, and certain other plane curves. Extension of the most fundamental of these notions to space. Mj. PROFESSOR WILCZYNSKI.

9. **Solid Analytic Geometry.**—The co-ordinate systems in space. Lines, planes, and quadric surfaces. General properties of surfaces and space curves. (Informal.) Mj. PROFESSOR WILCZYNSKI.

10. **Calculus with Applications.**—This is designed for students intending to pursue the study of pure or applied mathematics as well as for those who are actively engaged in work which presupposes a knowledge of calculus. An important feature throughout is the large number of practical applications. In

dynamics, physics, mechanical and electrical engineering a working knowledge of the calculus is essential. Therefore in the exposition of the theory dynamical, physical, and geometrical illustrations are freely used. It is the aim to acquaint the student with the kind of mathematics which he will find useful and to cultivate the power of applying the principles of the calculus, at first to simple, then to more difficult, practical problems. The course is divided into three parts; for the first of them, A, a knowledge of solid geometry, trigonometry, college algebra, and plane analytic geometry is requisite.

A. This deals mainly with the differential calculus and applications. Mj.

B. Chief attention is given to the integral calculus and applications. Mj.

C. This provides: (1) a continuation of the treatment of several topics begun in A and B; (2) applications of the calculus; (3) a brief treatment of differential equations. Mj.

PROFESSOR WILCZYNSKI.

11. Analytical Mechanics.—

A. An elementary course aiming to give the student a firm grasp of the physical principles involved, leaving aside at first all mathematical developments which do not contribute directly to this end. By the solution of graded problems the student is taught to use his knowledge of mathematics in the solution of concrete problems of nature. The course includes a short introduction to the underlying principles of the motion of a particle. The main body is devoted to the statics of a system of particles and of rigid bodies. Prerequisite: differential and integral calculus. Mj.

B. Continues A and deals with the dynamics of a particle and of a system of particles. The motion of rigid bodies, together with a short study of generalized co-ordinates, completes the course. Mj.

ASSOCIATE PROFESSOR LAVES.

12. Theory of Equations.—The fundamental properties of algebraic equations, their transformation, and the approximate determination of their roots. Determinants, symmetric functions, and invariants. (Informal.) Mj. PROFESSOR WILCZYNSKI.

13. Differential Equations.—Discussion of problems which lead to differential equations and of the standard methods for their solution. (Informal.) Mj. or DMj. PROFESSOR WILCZYNSKI.

14. Introduction to Analysis.—A somewhat critical study of the fundamental elementary notions of Analysis. Hardy's *A Course in Pure Mathematics*. (Informal.) DMj. PROFESSOR MOORE.

GRADUATE

NOTE.—A student must consult the instructor before registering for any one of the following courses.

15. Advanced Mechanics.—

A. *The Dynamics of a System of Particles.*—Free and constrained motion of the material point. General principles bearing on the dynamics of systems of particles. Lagrange's generalized co-ordinates, the canonical co-ordinates of Hamilton and Jacobi, and Jacobi's partial differential equations, additions of Donkin and A. Mayer. Mj.

B. *The Dynamics of Rigid Bodies.*—System of vectors, distribution of mass, instantaneous motion; dynamics of rotating bodies. Mj.

C. *The Theory of the Potential.*—This course includes the theory of Spherical Harmonics. Mj.

ASSOCIATE PROFESSOR LAVES.

16. Projective Geometry.—Veblen and Young's *Projective Geometry*. (Informal.) DMj. PROFESSOR MOORE.

17. Theory of Functions of a Real Variable.—Hobson's treatise on the subject will be used. (Informal.) DMj. PROFESSOR MOORE.

18. Theory of Functions of a Complex Variable.—Burkhardt's *Einführung in die Theorie der analytischen Funktionen*. (Informal.) DMj. PROFESSOR MOORE.

19. General Analysis.—A study of classes of functions of a general variable, based on Moore's *Introduction to a Form of General Analysis*. Prerequisite: a knowledge of the theories of convergent series and of continuous functions. (Informal.) Mj. or DMj. PROFESSOR MOORE.

SCHOOL OF EDUCATION

20. Theory of the Teaching of Elementary-School Mathematics.—This course is based on a good knowledge of the subject-matter of arithmetic, algebra, and geometry. It includes a critical study of (1) the content, (2) the organization, and (3) the methods of presenting mathematics to grade pupils. The curriculum is critically studied from grade to grade, with a view to determining the best type of work for the modern elementary public school. Some attention is given also to testing the results of arithmetic teaching. Mj. PROFESSOR MYERS.

21. The Psychology of Number.—The work of this course requires a good knowledge of the subject of arithmetic and some power of abstract thought. Questions having to do with the psychological genesis and growth of the number concept are examined. The psychologic grounds for and against the ideas which have dominated pedagogic method in the elementary mathematics are critically examined. The variable unit conception of number is studied with special care. The purpose of the course is to make teachers of elementary mathematics clearly conscious of the function of this subject in elementary education, thereby rendering this practice immune from contagion of shallow mechanical devices as methods of training the number faculty of children. Mj. PROFESSOR MYERS.

22. Teachers' Course in the First Two Years of Secondary Mathematics.—This course covers the essentials of the work in mathematics usually taught in the first two years of the high school. The subjects, algebra and geometry, are related to each other and to other topics not usually treated in the first two years. Thus trigonometry is introduced in the second year leading to the solution of the right triangle and simple trigonometric equations. The course serves as a review from the point of view of the teacher, it suggests methods of presenting the subject-matter to high-school classes, and brings the teacher into close touch with modern ideas and methods. It presents the work under the aspect of unified mathematics. DMj. PROFESSOR MYERS.

23. The Teaching of Secondary Mathematics.—This course covers the general theory of the teaching of secondary subjects. It examines critically the best modern courses in algebra, geometry, and trigonometry and undertakes to point out the present defects in the organization and administration of the mathematical work in high schools with a view to specifying desirable improvements. Some general attention is given to the advantages and disadvantages of fusion mathematics. Subject-matter is treated only in so far as needed to exhibit method and organization. Mj. or DMj. PROFESSOR MYERS.

24. The Teaching of College Algebra, Trigonometry, and Analytics.—A good academic knowledge of these subjects is required for admission to this course. The following topical enumeration will suggest the nature of the questions considered: (1) the purpose of college algebra, trigonometry, and analytics in the curriculum of the college: (a) viewed from the teacher's standpoint, (b) viewed from the student's standpoint; (2) method of teaching these subjects as determined by this purpose; (3) the correlation idea as applied to Freshman college mathematics; (4) the laboratory method in Freshman college mathematics; (5) use of graphical work early and all along; (6) applications of these subjects in teaching them; (7) dangers of this teaching becoming too abstract; (8) order and sequence of special topics. Any recent text in each of these subjects will answer. Mj. PROFESSOR MYERS.

25. History of the Science of Mathematics.—This course is intended to put the student in possession of a knowledge of the most fruitful epochs and of the

most salient influences of mathematical history; to make him more keenly appreciative of the fact that his science is and always has been a growing science, to inform him that the attitude of mind exhibited by the works of the great mathematicians is most conducive to progress today; in short, to assist the mathematical student to identify himself more intelligently with those men and movements which are making for mathematical advance at the present time. Mj. PROFESSOR MYERS.

The History of Astronomy.—(Cf. description under Astronomy 2.) Mj. PROFESSOR MYERS.

Members of the Mathematical Department will endeavor to arrange informal courses for students who are able to do work of an advanced nature, whenever practicable.

ASTRONOMY

1. Descriptive Astronomy.—An elementary general culture course designed: (1) to furnish an idea of the principles, methods, and results of the science; (2) to show the steps by which the remarkable achievements in it have been attained; and (3) to unfold that extended horizon which astronomy has laid open. This work covers the recent investigations respecting the origin and development of the solar system. Moulton's *Introduction to Astronomy*. (Informal.) Mj. PROFESSOR MOULTON OR ASSISTANT PROFESSOR MACMILLAN.

2. The History of Astronomy.—This is a culture course on the subject for persons who desire to familiarize themselves with the scientific ideas, methods, and results that have determined scientific progress down to recent times. The history of no science so fully exhibits the complete scientific method as does the history of this oldest, most complete, and most exact of all the sciences. A careful study of it may well constitute a part of a liberal education. It is both stimulating and directly helpful to teachers of high-school science and mathematics. A real basis for much of the high-school mathematics is furnished by supplying the astronomical setting from which it sprang. Mj. PROFESSOR MYERS.

3. Celestial Mechanics.—A treatment of the dynamics of the solar system, including the contraction theory of the heat of the sun, the attraction of bodies, the two-body problem, determination of orbits, the general integrals of motion, the three-body problem, and perturbations. Moulton's *Introduction to Celestial Mechanics*. Prerequisite: course 10 in Mathematics or its equivalent. (Informal.) DMj. PROFESSOR MOULTON OR ASSISTANT PROFESSOR MACMILLAN.

PHYSICS

1. Elementary Physics.—

A. Mechanics, Molecular Physics, and Heat.—This course corresponds essentially to course 1 in residence, and is designed to cover the first half-year's work in elementary physics as given in high schools and academies. A text is followed rather closely but the assignments in it are supplemented by new problems and references to other textbooks. The apparatus for the required laboratory work, together with detailed instructions for setting it up and performing the experiments, is packed in a special case and shipped to the student. Report on both the reading and laboratory work are submitted by the student for approval or correction. A deposit of \$15.00 is required for the loan of the apparatus. This will be refunded when the same is returned intact, less expressage and \$3.00, the loan fee. Mj.

B. Electricity, Magnetism, Sound, and Light.—A continuation of course A and the equivalent of the second half-year of high-school physics. The plan for text and laboratory work laid down under course A is followed in this course. A deposit of \$15.00 is required for the loan of apparatus. This will be refunded when the same is returned intact, less expressage and \$3.00, the loan fee. Mj.

ASSISTANT PROFESSOR MOORE.

NOTE.—Courses A and B together constitute the admission unit in physics.

CHEMISTRY

1. General Inorganic Chemistry (sequel to high-school chemistry).—The two Majors into which the work is divided furnish a review and a continuation of elementary chemistry and form the link between the average high-school course in chemistry and "Qualitative Analysis." They correspond to courses 2S and 3S in residence. In view of the fact that different students will have different degrees of preparation, the number of lessons may be varied by omitting such parts of the subject as the student may already have mastered; in this way the work will be adapted to individual needs, and waste of time and effort will be avoided. Students must provide themselves with a balance sensitive to one centigram, with weights 50 gm. to 0.01 gm., and must have access, at least, to a barometer. This apparatus cannot be loaned. The rest of the *apparatus* needed for either course A or course B will be loaned for a deposit of \$15.00. The *chemicals* necessary for course A will be loaned for a deposit of \$10.00, and for course B for \$15.00. When the apparatus and chemicals are returned, the deposits will be refunded, less the cost of checking, non-returnable and missing parts, breakage, carrying charges, and a fee of \$1.50 for the use of the apparatus in each Major, \$2.50 for the chemicals in course A, and \$3.50 for those in course B.

A. This course includes a study of the principal non-metallic elements and their chief compounds. It includes also the study of the laws and principles of the science and their use in explanation of chemical phenomena. The laboratory work, which is an important part of the course, affords opportunity for gaining direct knowledge of the different substances, their modes of manufacture, and their properties. In the choice of illustrations preference is given to the industrial and other applications of chemistry. Prerequisite: a course in inorganic chemistry as ordinarily given in high schools. Mj.

B. Continues course A and deals chiefly with the metallic elements. Mj.

ASSISTANT PROFESSOR SCHLESINGER.

2. Qualitative Analysis.—The second year of college work in chemistry is offered in the following three Majors. The apparatus and the reagents for any one of them will be loaned for a deposit of \$30.00. If only the set of sixty glass stoppered bottles, required for the necessary solutions, is needed, they will be loaned for a deposit of \$6.00. The deposit will be refunded when the apparatus is returned, less deductions for the loan (\$1.50 for the apparatus, \$3.50 for the chemicals, \$0.50 for the bottles), checking, carrying charges, and broken and missing parts. An extra charge of \$1.00 per Major is made for "unknowns."

A. This course aims to present the fundamental methods of qualitative analysis. The analytical reactions of the most important metals and acids are studied. This is done in such a way that the student learns the art of performing tests and comes to understand how the methods of separation and detection are based upon a judicious selection and arrangement of these tests. During the course each student analyzes a number of simple salts and a few mixtures which contain, in each case, only the metals or acids of a single group. Qualitative analysis has been modified by the influence of physical chemistry. The theories of solution and of electrolytic dissociation and the study of problems in chemical equilibrium have all contributed to furnish analytical chemistry with a scientific foundation which it never possessed before. Course A is planned to develop the subject with this scientific, theoretical foundation and at the same time to give a thorough foundation in *systematic analysis*. Prerequisite: "General Inorganic Chemistry" (A and B) or the equivalent. Mj.

B. Continues course A and gives the student practice in the *systematic analysis* of simple salts, simple mixtures, and, finally, of rather difficult mixtures in which the metals and acids are to be determined. Fifteen to twenty "unknowns" will be analyzed. The main object of the course is to develop *accuracy* and *reliability*, and these must be demonstrated in the final analyses to secure credit. Mj.

C. Continues course B and requires the analysis of complicated mixtures, and especially the analysis of minerals and commercial products. Mj.

PROFESSOR STIEGLITZ.

GEOLOGY AND PALEONTOLOGY

ACADEMY

1. Physical Geography.—This course is designed especially for high-school students or those desiring a course equivalent to that given in a first-class high school. The lessons treat of the form of the earth and its solar relationships; the work of running water, underground water, waves, glaciers, and the atmosphere as agencies which are at present, as in the past, modifying the earth's surface; and the phenomena of vulcanism and movements of the earth's crust. Some attention is paid to climate. **Mj. DR. STEPHENSON.**

COLLEGE

2. Physiography.—The course embraces the following general subjects: (1) the form of the earth as a whole and its relation to other members of the solar system, particularly the sun and the moon, with the consequent changes in the length of day and night and the seasons; (2) the atmosphere—its constitution, temperature, pressure and movements, weather changes and climate; (3) the ocean—its constitution, temperature, movements, geologic activities, coastline phenomena; (4) the land—the geologic processes by which the earth's topography has been chiefly determined and the varied topographic types which result therefrom, including the study of the origin and development of plains, plateaus, river valleys, mountains, volcanic cones, islands, and seashore features. The effects of man's physical environment upon his distribution, his habits, and his occupations will be continually emphasized. Topographic maps and folios will be studied, and the maps will be used in connection with land forms. The rocks and minerals forming the earth's crust will be treated as fully as the course permits. The last lessons will give the student some opportunity to do individual field work. Laboratory methods will receive attention throughout the course. The course covers the ground of course 1 offered in residence, and is suited to the needs of those who teach physical geography and physiography in preparatory schools. **Mj. PROFESSOR CALHOUN.**

3. General Geology.—This course treats of the leading facts and principles of geology and the more important events of geological history. It embraces the following general subjects: (1) the materials of the earth; (2) physiographic geology—the work of atmosphere, running water, glaciers, waves and currents, and organic agencies treated in a manner to supplement the physiographic studies of course 2; (3) volcanic, diastrophic, and structural geology; (4) elementary studies in the interpretation of topographic and geologic maps; (5) historical geology—a systematic study of the development of the series of geological formations, with special reference to the evolution of the North American continent and the historical development of life forms; (6) economic geology; (7) a special general geological report on a particular area in the student's own vicinity. This course covers the ground of course 5 in residence, and is adapted to the needs of teachers in high schools and academies, to those interested in economic geology, and also to students not intending to specialize in geology. Course 2, while desirable, is not a prerequisite. **Mj. DR. STEPHENSON.**

4. Interpretation of Topographic and Geologic Maps.—This course is intended especially to introduce teachers of high-school, normal-school, and college grade to modern methods of laboratory work in physiography and general geology. It may also be taken by teachers of nature-study in the grades and by those interested in regional physiographic problems. It will serve as a basis for the study of the physiographic features of widely separated regions in the United States and as a supplement to the physiographic studies of courses 2 and 3. The course assumes that the successful teaching of physiography must be accompanied by a clear understanding of topographic maps and by their continued use. It is based on topographic maps of the United States Geological Survey, and a guide to their interpretation, and includes: (1) general principles in the interpretation of topographic maps; (2) topographic forms resulting from the work of

wind, ground water, running water, glaciers, oceans and lakes, diastrophic movements, and vulcanism; (3) interpretation of the physiographic history of specially selected regions, on the basis of topographic maps; and (4) enough work with geologic maps to show something of the connection between geologic structure and topography. Prerequisite: a knowledge of physiography equivalent to that afforded by either course 2 or 3. M. PROFESSOR TROWBRIDGE.

5. Elementary Mineralogy.—A course intended to familiarize students with the common minerals. A large part of the work will consist in determining, principally by means of their physical properties—streak, hardness, cleavage, specific gravity, etc.—the 85 or 90 specimens which will be furnished. The origin, occurrence, and economic uses of each mineral also will be studied. The work on minerals will be supplemented by a brief discussion of the rocks, their modes of formation, occurrence and classification. The course is intended for beginners, and no previous geological training is required, but an understanding of a few of the fundamental principles of chemistry is highly desirable. The streak plate and the set of specimens will be furnished for a fee of \$3.50. A small hand lens and a specific-gravity balance will be very useful and if possible should be procured by the student. The set of minerals becomes the property of the student and will serve for future reference or as a nucleus for a collection. Mj. ASSISTANT PROFESSOR BROKAW.

6. Economic Geology.—This course, corresponding to course 2 in residence, is designed to give a general knowledge of the principles governing the formation and occurrence of the more important ores and non-metalliferous deposits, and of the conditions, commercial and otherwise, which limit their exploitation. It covers the study of: (1) structural materials—including building stones, clays, limes, mortars, and cements; (2) fuels—including coal, petroleum, and natural gas; (3) principles controlling the deposition of metalliferous ores—including the nature and genesis of ores, the forms of ore bodies, and their relations to the structural features of the containing rocks, the formation of cavities in rocks, underground waters, their composition, circulation, etc.; (4) ores of metals—including iron, copper, lead, zinc, gold, and silver. No attempt is made to cover the entire field, but typical districts or occurrences are studied in each case. Incidentally it is hoped the student will learn how to study a district independently, and to that end he will be put in touch with the general literature of the subject. The student is expected to be familiar with the common rocks and minerals. Prerequisite: elementary chemistry and course 3 or a practical knowledge of geology gained by experience in mining, etc. Mj. DR. STEPHENSON.

GEOGRAPHY

1. The Elements of Geography.¹—An introductory study of the earth, its physical features, and the relations of land, air, and water to life—especially to human affairs. Mj.

2. Influence of Geography on American History.¹—A study of the geographic conditions which have influenced the course of American history, their importance as compared with one another and with non-geographic factors. Mj.

SCHOOL OF EDUCATION

3. The Teaching of Geography in the Primary Grades.—This course, corresponding to course 1 in residence, is designed for teachers, supervisors, and principals. The main topics considered are: (1) home geography—a study of the products, industries, and physical aspects of the region in which the student is located; (2) foreign geography—a consideration of regions which best illustrate the geographic control of cold (Greenland), heat and moisture (Amazon basin), drought (Arabia); (3) selection and adaptation of material best suited to the first four grades. M. ASSOCIATE PROFESSOR BABER AND MISS HENDERSON.

¹ May be available later in the year.

4. The Teaching of Geography in the Grammar Grades.—The aim of the course is to consider the principles underlying the selection and adaptation of material in continental geography for the grammar grades through the study of Eurasia. The subjects treated are: (1) relief and its causes; (2) climate; (3) distribution of vegetable and animal life; (4) peoples and their industries. A detailed study is made of Europe, India, China, and Japan in these respects. Special emphasis is placed upon the educative value of modeling and the drawing of maps and type landscapes, and training in work of this kind is afforded in the course. Mj. ASSOCIATE PROFESSOR BABER AND MISS HENDERSON.

ZOOLOGY

1. Introductory Zoölogy.—This course corresponds to course 1 in residence. The laboratory work includes (a) observations, dissections, and experiments upon unicellular animals (Amoeba and Paramoecium); (b) a higher invertebrate type such as the earthworm and crayfish; (c) a vertebrate type (the frog); (d) a study of embryology and of cell division. A fee of \$5.00 will be charged for the materials furnished and the loan of slides. A compound microscope magnifying 400 diameters, a hand lens, and a set of dissecting instruments will be needed. The cost of instruments (exclusive of microscope and hand lens) need not exceed \$3.00. Mj. ASSOCIATE PROFESSOR NEWMAN.

2. Elementary Entomology.—The course opens up the large field of general entomology, and at the same time furnishes thorough training in the elementary principles of the science. A type insect is studied intensively, and representatives of other groups are compared with the type. The student thus becomes familiar with the taxonomic structures and terminology for the same, a knowledge of which is essential in all identification work. Instruction is given concerning methods of preserving and pinning insects for collections. Students already interested in some particular insect group, or in some special phase of entomology, will be given assistance in securing and identifying material, will be supplied with special references to literature, and, if they wish, will be put in touch with others working along the same line. The expense for books will be between \$5 and \$10, and for the hand lens which the student must have about \$2.50. A low-power compound microscope or a dissecting microscope will be helpful but not essential. Prerequisite: desirably a high-school course in biology, but mature students will be able to acquire all the necessary preliminary knowledge from the reading that will be assigned. Mj. DR. WELLS.

3. Evolution and Heredity (introductory course).—The equivalent of course 5 in residence. The course gives an unprejudiced treatment of one of the central problems of biology and is intended to serve as an introduction to more advanced special work in zoölogy and other biological branches. Yet the general student will find the work absorbingly interesting if he is prepared to read widely and to form independent judgments as to the validity of arguments and evidence. Among the topics discussed are: (1) brief survey of animal groups in the order of increasing complexity; (2) the idea of a phylogenetic tree; (3) evidences of evolution from comparative anatomy, embryology, paleontology, and geographical distribution; (4) the ancestry of man; (5) the history of the evolution idea from the Greeks to Darwin; (6) Darwinism—a critical discussion; (7) post-Darwinian hypotheses as to the causes of evolution; (8) variation and heredity as prime factors of evolution; (9) variations: size, kind, causes; (10) the hereditability of variations; (11) the physical basis of heredity; (12) Mendelian heredity; (13) the facts of inheritance in man; (14) eugenic aspects of evolution and heredity. Mj. ASSOCIATE PROFESSOR NEWMAN.

4. Genetics and Eugenics.—This course, corresponding to course 3 in residence, has no technical prerequisite, but it may advantageously follow course 2, since it treats fully certain aspects that could only be outlined in that course. Students are directed to the best and most recent literature on the subject available. Among the topics dealt with are: (1) the facts and factors of development;

(2) the cellular basis of heredity; (3) the biology of sex and the mechanics of sex determination; (4) the inheritance of acquired characteristics; (5) the most recent developments of Mendelian heredity; (6) heredity of physical and mental traits in man; (7) the principles of eugenics; (8) parenthood and race culture; (9) eugenic programs; (10) eugenic legislation. Mj. ASSOCIATE PROFESSOR NEWMAN.

5. General Morphology and Natural History of the Invertebrates.—The two Majors of this course correspond to courses 15 and 16 in residence.

A. Protozoa, Porifera, Coelenterata, Platyhelminthes, Nematelminthes, and Echinodermata.—An introduction to the study of invertebrate animals. The work includes laboratory study of the anatomy, physiology, and, as far as possible, of the life-history of typical forms, together with assigned reading. Special emphasis is laid on the economic importance of the animals considered. The fundamental principles of comparative morphology are kept in view throughout the course. In addition to the study of the material furnished (about thirteen forms) the student will be expected to acquaint himself with some of the typical invertebrates of his own locality, and directions for the collection and determination of such forms will be given. The securing of the protozoa studied in the course is a part of the laboratory work, and since protozoa must be cultivated in infusions, which require from one to three or four weeks, the student should not delay registration until he is ready to begin work. Instructions for making infusions will be sent with the first lessons. Fee for material and loan of more difficult preparations, \$5.00. Mj.

B. Mollusca, Annelida, and Arthropoda.—Continues A, and completes the study of the invertebrates, including the most interesting group, the insects. About twelve forms, including some especially prepared, are furnished. Dissection of the clam, snail, squid, earthworm, clam-worm, lobster, spider, grasshopper, and several other insects, and study of habits, physiology, and life-histories of these forms are required. The fee for materials and the loan of the more difficult preparations, including slides illustrating adaptation among insects, is \$6.25. Mj. DR. HYMAN.

6. Vertebrate Zoölogy.—An introduction to the study of the vertebrates and their relatives corresponding to course 17 in residence. The laboratory work includes dissection of the dogfish, turtle, and cat, and the preparation and study of the skeletons of several animals. Material with circulatory systems injected will be furnished, and in addition the student must provide two or three easily obtainable forms. The work is strictly comparative, i.e., each system of organs is taken up and its progressive change from the lowest to the highest forms is followed. The cost of dissecting instruments and the books will be about \$15.00. Fee for materials, \$6.00. Prerequisite: course 1 or its equivalent. Mj. DR. HYMAN.

7. Vertebrate Embryology.—A course indispensable for the teacher of zoölogy and fundamentally important to all who wish to understand the origin and development of the human structure. The study includes (a) laboratory work on the development of the chick and the pig, dissection of pig embryos and of a pregnant pig uterus; (b) assigned readings on the development and structure of the sexual cells, fertilization, early development of vertebrates in general, and of the chick and mammals, including man, in particular; (c) formation of embryonic membranes; human membranes and placenta, later development of various systems, especially the nervous system, the alimentary canal, the circulatory system, and the urino-genital system. The student must provide, if possible, living chick embryos. A compound microscope, magnifying 200 diameters, a dissecting microscope (if not obtainable, a good hand lens may be substituted), and a few dissecting instruments are required. The fee for materials furnished is \$2.50 and the deposit for the loan of slides is \$10.00. Prerequisite: course 1 or its equivalent and desirably "Vertebrate Zoölogy." Mj. DR. HYMAN.

8. Elementary Animal Ecology.—Ecology treats of the relations of organisms to their environment; this relation shows itself in the reactions of the

animals to the different environmental factors, such as light, temperature, moisture, etc., and the reactions in turn determine the distribution of the animals. In this elementary course in animal ecology the student will spend much of the time getting acquainted with the great variety of animal forms that exist in every locality. He will thus become familiar with the habits of the different species, will learn where and when to find them, and how to collect, preserve, and identify the animals of his own locality. He will be assisted by written directions and outlines and by the suggested readings and assistance in identifying preserved materials. The expense for books and apparatus will be between \$5.00 and \$10.00. (Informal.) Mj. DR. WELLS.

9. Economic Zoölogy.—In this course the student is introduced to the different animal groups from the economic point of view. The collateral reading and formal lessons are planned so as to build upon previous morphological knowledge of animals a knowledge of the importance of each group in the economy of man. Thus the animals that furnish food, that destroy crops, that carry and produce disease, etc., are taken up in turn. The course is arranged so that it may be adapted to the region in which the student lives, and thus he may make a particular study of the economic forms in his own locality. This study will form an illustrative basis for the study of groups in other localities and countries. The methods of study will combine those of ecology, physiology, and general life-history work. Only students who have completed courses in the morphology of the invertebrates and the lower vertebrates will be admitted. The total expense for books and apparatus will be about \$10.00. The materials required will differ in individual cases. Mj. DR. WELLS.

10. Advanced Animal Ecology.—This course, which corresponds to course 52 in residence, is designed primarily for students who have taken courses in animal ecology in residence. It consists largely of definite systematic field work which may mean work on some ecological problem. All the animals of certain habitats will be studied in relation to each other and to the environmental conditions with which they come in contact. Simple analyses of environmental factors may be attempted in some cases. The student must consult the instructor before registering for the course. (Informal.) Mj. DR. WELLS.

11. Graduate Reading in Zoölogy.—This course is planned to serve the function of a seminar course in residence. Selected reading along different lines in zoölogy or general biology will be planned by the instructor, and topics for written theses and criticisms will be assigned. The following seminar courses will serve as a basis of choice: "Problems in Morphology and Phylogeny"; "Problems in Genetics and Experimental Evolution"; "The Biology of Sex"; "Experimental Embryology." If the student has a particular interest in some field not included under these heads, it may be possible to lay out a course of reading with theses. Prerequisite: at least two years of college zoölogy or its equivalent. (Informal.) Mj. ASSOCIATE PROFESSOR NEWMAN.

PHYSIOLOGY

1. Introductory Physiology.—The object is to develop an appreciation of the human body. This necessitates a knowledge of its structure and the work of its parts separately and as a whole. Knowledge of this kind is a necessary foundation for advanced study and should be the possession of every intelligent person, for without it effective co-operation in the modern methods of healing and preventing disease, as practiced by physicians, is impossible. A further use of physiological facts is their application to methods employed to solve many social problems of today. To teachers such knowledge is especially valuable. It enables them to use and conserve the bodily powers both of themselves and of their pupils and to analyze intelligently deficiencies exhibited by their pupils and so make proper adjustments.

A. This is essentially a summary of the history of food in the body. In the *textbook work*, after stating the point of view from which the subject is to be

attacked, the following topics are discussed: (1) life—theories advanced to explain its nature, conditions necessary for its existence; (2) protoplasm, cells, tissues, organs and their relations and, incidentally, the subject of “division of labor”; (3) blood—its structure, components, and use; (4) respiration; (5) digestion and digestive fluids; (6) secretion and absorption. In the *laboratory work*, which will require a microscope for a short time (two weeks or so), directions will be given for the study of: (1) blood; (2) properties of foods; (3) the changes which food undergoes under the action of the various digestive fluids. Some knowledge of chemistry is essential. The requisite laboratory equipment and materials will be loaned for a deposit of \$15.00. Mj.

B. Continuing A, study is made of: (1) how the blood with its acquired foods is distributed throughout the body (circulation); (2) how the lymph gets to the cells; (3) history of food in the body cells—fats, glycogen, muscle, nerve, the various tissues, their physiology and metabolism, are discussed; (4) excretion; (5) animal heat. Directions are given for making the necessary experiments to illustrate physiological methods and the physiology of the organs of circulation, muscle, and nerve. The requisite laboratory equipment will be loaned for a deposit of \$15.00. Mj.

C. Continuing B, study is made of the physiology of the brain, cord, and senses. The course aims also to give general acquaintance with the structure of the central nervous system. Known facts in its physiology are discussed, and so far as possible the methods by which these facts have been ascertained are explained. The main facts of the anatomy and physiology of the brain, eye, ear, and other sense organs are brought out through dissection, for which full directions are furnished. Mj.

ASSISTANT PROFESSOR LINGLE.

NOTE.—The deposit for either A or B will be refunded when the set of apparatus is returned, less charges for breakage, expressage, and a loan fee of \$3.00.

BOTANY

1. **General Morphology of the Algae and Fungi.**—This course consists of twelve exercises covering the ground of the laboratory work of the twelve weeks' course given at the University. The fifty types studied represent all the main groups of algae and fungi. In connection with a study of the structure, development, and relationships of the various forms, the principal problems considered are: (1) the evolution of the plant body, (2) the origin and evolution of sex, and (3) parasitism, saprophytism, and symbiosis. This is pre-eminently a course for beginners, but it is also adapted to the needs of teachers who, though acquainted with the older style of botany, desire an introduction to the more modern phases of the subject. The material in many of the types is sufficient for a class of eight or ten students. An additional fee of \$2.50 is charged for the material and the loan of preparations. The applicant must have access to a compound microscope with a low- and a high-power objective, the latter being a $\frac{1}{8}$, a $\frac{1}{6}$, or a $\frac{1}{4}$, preferably a $\frac{1}{4}$. Mj. PROFESSOR CHAMBERLAIN.

2. **General Morphology of the Bryophytes and Pteridophytes.**—A course similar to the one on algae and fungi and requiring that course or its equivalent as a prerequisite. The structure, life-histories, and relationships of the liverworts, mosses, and ferns are studied in characteristic types. The principal problems considered are: (1) the evolution of the sporophyte, (2) the reduction of the gametophyte, (3) heterospory, (4) alternation of generations, and (5) an introduction to modern phases of vascular anatomy. As in course 1, a compound microscope and skilfully stained preparations, involving a knowledge of micro-technique, are needed. Arrangements have been made whereby a limited number may secure the material and a loan of the necessary preparations for \$5.00. No one should register without consulting the instructor. Mj. PROFESSOR CHAMBERLAIN.

3. **General Morphology of the Gymnosperms and Angiosperms.**—A course similar to the two preceding courses and requiring both of them (or their equivalent) as a prerequisite. Aside from a study of the structure and development of

typical forms the most important features of this course are: a study of floral development, spermatogenesis, oögenesis, fertilization, embryology, karyokinesis, and a brief survey of Engler's scheme of classification. A compound microscope is needed, as in courses 1 and 2. No one should register without consulting the instructor. Fee for material and the loan of the more difficult preparations, \$5.00. Mj. PROFESSOR CHAMBERLAIN.

NOTE.—Courses 1, 2, and 3 are designed to give the student a comprehensive view of the structure, development, relationships, and problems of the plant kingdom. These courses form the necessary foundation for all advanced work, whether the advanced work be morphology, physiology, ecology, or taxonomy. They are required of all who make botany their Major subject for the Bachelor's degree, and are required of all who make botany either a Major or Minor for any higher degree. The development of a clear, bold style of scientific drawing receives attention in all of these courses.

4. Elementary Plant Physiology.—This course corresponds to course 2 in residence. It aims to give the student a general knowledge of the life-processes of higher plants and is introductory to the advanced courses in the subject given in residence. The work will consist of experiments illustrating the different topics, together with assigned reading in a standard textbook. It is adequate to meet the needs of high-school teachers. For the experimental work little more apparatus will be needed than that found in the physical and chemical laboratories of the average high school. A list of required articles will be furnished on application. Reports of both reading and experiments will be called for and will be returned with corrections. Anyone registering should realize that serious difficulties will be encountered unless some facilities for growing plants are at hand. This difficulty can be met by doing the work during the summer months. The student must consult the instructor before registering. Mj. ASSOCIATE PROFESSOR CROCKER.

5. Elementary Plant Ecology.—This course covers essentially the same ground as Coulter's *Plant Relations*, and does not necessarily require previous botanical training, though some work in plant analysis and in the study of plant structures is highly desirable. The object of the course is to present to the student the factors which influence the functions, form, and distribution of the common plants of his neighborhood. At first the different forms of leaves, stems, and roots are studied; then the plant is taken as a whole with respect to the advantages it possesses in the struggle for existence because of a particular structure—leaf, root, or stem. Under the subject of stems the identification of the common trees is required. The work may be carried on chiefly out of doors, and no microscope is needed. Mj. DR. FULLER.

6. Introduction to the Principles of Plant Production.—This is chiefly a reading course of general nature dealing with the main physiological, educational, and economic factors influencing plant production in the United States. Several phases of the work involve simple experiments, but these call for little apparatus. Some of the topics considered are: (1) a brief history of our knowledge of plant nutrition; (2) soils as influencing plant growth and production; (3) seeds and germination of seeds of economic plants and weeds; (4) water relations of plants; (5) synthesis of foods and their uses in plants; (6) reproduction and fertilization and physiology of budding and grafting. On the educational and economic side a brief history is given of the development of agricultural colleges, experiment stations, and extension work in the United States, especially the impetus given in these lines by national acts (Morrill, Hatch, and Adams acts and the Smith-Lever bill) and by the work of the General Education Board. In addition to the textbooks constant use will be made of various agricultural bulletins and other scientific pamphlets. In case the pamphlets cannot be obtained gratis they can be borrowed from the Correspondence-Study Department for a nominal fee. This course should be attempted only by persons having a fair general knowledge of botany. It is designed to give teachers of elementary agriculture a thorough grasp of the principles underlying their subject. Mj. ASSOCIATE PROFESSOR CROCKER AND DR. ECKERSON.

7. Elementary Forestry.—The principal subjects covered by this course are: (1) the identification of trees by the use of keys and other helps; (2) the life-

relations of trees, that is, trees as influenced by light, soil, temperature, wind, animals, and by the struggle for existence; (3) the composition and distribution of the forests of the United States; (4) some economic aspects of forestry, namely, the proper care and management of the forests, including plans for improvement cuttings, for reproduction, and for protection from fire. The object of the course is to impart an elementary general knowledge of forestry, including the forestry problems in the United States, and it is offered primarily to teachers in the belief that they can do much to influence public opinion in regard to one of the most important economic problems confronting the country. Textbooks are used, but whenever practicable they are supplemented by field exercises on some limited forested area selected by the student. As the instructor spends a considerable part of each summer in the northern woods beyond regular mail service, the student should plan to do as much of the work as possible during the other seasons of the year. Mj. DR. HOWE.

8. Ecological Plant Anatomy.—This course is a continuation of course 5 and corresponds to course 30 in residence, giving graduate credit. It involves a careful study of the absorptive, conductive, synthetic, protective, and storage tissues of plants in relation to their functions, with special attention to the variations of structure in so far as they depend upon changes in environment. Students electing this course should have a knowledge of elementary botany and be somewhat familiar with the use of the microscope. The student must have access to a good compound microscope, and if the work is to be done during the winter, access to a greenhouse is very desirable. Fee for materials and loan of slides, \$2.50. Mj. DR. FULLER.

9. Field Ecology.—This course is designed primarily for those students who have taken residence courses in ecology and who desire to pursue further investigations along this line. The work consists very largely of systematic study in the field. A definite region or plant formation may be made the subject of study, or some problem may be selected in the ecology of plant structure or behavior. (Informal.) Mj. PROFESSOR COWLES OR DR. FULLER.

10. Elementary Plant Anatomy.—A study of the tissues and tissue systems of vascular plants from the standpoint of phylogeny. This work is very different from the old anatomy in which facts were presented without any attempt to relate them to each other. The course deals with the morphology and evolution of the vascular system, and is based upon a comparative study of representative juvenile and adult forms of Pteridophytes, Gymnosperms, and Angiosperms. A microscope magnifying about four hundred diameters is necessary. An extensive knowledge of micro-technique is not essential. Directions for preparation of material and making of the necessary mounts will be given in the exercises. Fee for material and loan of slides, \$2.50. Mj. ASSOCIATE PROFESSOR LAND.

11. Methods in Plant Histology.—This course deals with the principles and methods of killing, fixing, imbedding, sectioning, staining, and mounting. The student must have access to a compound microscope magnifying at least four hundred diameters, a microtome, and some other apparatus and reagents. A fee of \$2.50 is charged for plant material which is not readily collected at all seasons. No one should register without consulting the instructor. Mj. ASSOCIATE PROFESSOR LAND.

HYGIENE AND BACTERIOLOGY

ACADEMY

1. General Bacteriology and the Relation of Bacteria Yeasts and Molds to the Household, Dairy Industries, and Agriculture.—This is primarily a culture course designed for those who do not wish to go to the expense of setting up a laboratory and will consist of: (1) simple experiments at home; (2) examination and description of sealed cultures; (3) writing of themes on assigned subjects; (4) selected readings. [This course commands admission credit only.] Mj. DR. HEINEMANN.

COLLEGE

2. Bacteriological Methods.—The following subjects will be covered: (1) principles of sterilization; (2) manipulation of the microscope; (3) rôle of bacteria; (4) methods of growing bacteria; (5) methods of staining bacteria; (6) description of bacteria; (7) bacteriology of water and milk. The applicant must have access to a compound microscope with a low-power and a high-power objective. If all the apparatus is purchased it will cost approximately twelve dollars exclusive of the microscope, but many of the parts can be extemporized. A complete set of the apparatus needed, packed ready for shipment, can be supplied for about \$15.00. Course 1 is not prerequisite. Mj. DR. HEINEMANN.

3. Public Hygiene.—This is a reading course exclusively. The following subjects are covered: dissemination of disease, preventive measures; hygiene of food, water, and milk supplies; housing; ventilation; personal hygiene, etc. Prerequisite: high-school chemistry, "Bacteriological Methods," and "Introductory Physiology A" or equivalent training. M. DR. HEINEMANN.

4. Advanced Bacteriology.—A series of courses designed for those interested in some particular branch of bacteriology, e.g., medical, sanitary, agricultural, etc.

A. *Yeasts, Molds, and Acetic-Acid Bacteria.*—A course designed especially for those wishing to prepare themselves for the practical use of bacteriology in fermentation industries. The general methods of studying this class of micro-organisms are studied and practical work proposed. Mj.

B. *Water and Milk Analysis.*—This course covers the methods of practical water and milk analysis. The methods given are those in use at health and private laboratories, and, though not complete for research, give the student an idea of how research may be prosecuted after these subjects have been mastered. Mj.

C. *Bacteriological Examination of Soil.*—An elementary course in soil bacteriology, giving the methods now in vogue for investigation of soil conditions. Some knowledge of chemistry is required. Mj.

DR. HEINEMANN.

For those who wish to make a more comprehensive and intensive study of water analysis or milk analysis a full Major can be provided in either subject.

LIBRARY SCIENCE

1. Technical Methods of Library Science.—This is an elementary course designed especially for those who are already in library positions and are unable to leave for resident study. It deals chiefly with cataloguing and classification, with a few general lessons on accessioning, shelf-listing, bookbinding, periodicals, and loan systems. It is felt that no library training can be complete without personal familiarity with the "tools" of the profession and modern methods of work. Hence it is hoped that students taking this course will find it possible later on to supplement the work thus begun by resident study at some library school. While credit is not given for correspondence courses in any such school, familiarity with library methods will make residence work easier for the student. As preparation for this course two years of college training or its equivalent is required. Practical experience in library work will count much in the applicant's favor. The course consists of twenty-four lessons. Mj. Miss ROBERTSON.

SCHOOL-LIBRARY ECONOMICS

1. Literature for Children.—This course is designed for teachers, librarians, parents, social workers, and writers for children. It aims: (1) to give a survey of the field of literature for children; (2) to get at the principles underlying the selection of such literature; (3) to deal concretely and practically with certain problems of selection. It attempts to organize and to give new meaning to the

mass of literature already read by the student as well as to direct his study along new lines. The course is equivalent to course 31 in residence and deals with the following topics: (1) the young child and the book; (2) the adolescent and the book; (3) institutional factors, as: relation between school and library, Sunday school, the home; (4) the psychology and the hygiene of reading; (5) tested and graded lists of books through the twelve grades of school; (6) historical survey of books for children in America; (7) influence of England, France, and Germany on literature for children; (8) qualities and form, as: simplicity of plot, rapidity of style, narration, drama, etc.; (9) selected classics as literature for children: *Iliad*, *Odyssey*, *Nibelungenlied*, *Morte D'Arthur*, *Aesop's Fables*, *Arabian Nights*, *Shakspeare's Plays*, *Robinson Crusoe*, *Pilgrim's Progress*, *Gulliver's Travels*, *Alice in Wonderland*; (10) *Mother Goose*, the fairy tale, the ballad; (11) poetry for the young—principles of selection; (12) oral interpretation and reading of literature; (13) the Bible; (14) notable fiction; (15) scientific books—the book as a tool; (16) dramatic instinct—Shakspeare for the young; (17) illustrated books for children. The books used in the course are to be found in ordinary public libraries; the pamphlets and lists can be procured at small cost. A few reproduced pages from old and rare children's books will be furnished. For those interested in building up a children's library both the most expensive and also the cheaper editions will be indicated. Mj. MISS BLACK.

AESTHETIC AND INDUSTRIAL EDUCATION

1. Elementary Drawing and Painting.—All teachers would like to be able to draw. Most teachers in the elementary schools are expected to teach drawing. This course aims to present the subject of drawing and painting in such a way that at its completion the student will understand how to teach drawing to children and will also have some dexterity in the art. The degree of skill attained in both will depend somewhat upon natural ability and previous training, but neither is demanded by this course. The work is arranged under the following heads: (1) illustrative sketching and drawing; (2) object-drawing; (3) nature-drawing; (4) figure-drawing; (5) animal-drawing; (6) picture-study and outdoor sketching. The course discusses the place of drawing in the elementary schools, its relation to other subjects, suitable problems for the various grades, and methods of presentation. Mj. MISS WHITTIER.

2. Elementary Design.—All teachers want to know "How" and "When" to present a subject. All students desire to know "Why" a subject is presented. This course aims to answer the "How," "When," and "Why" of teaching design in the elementary schools. It is planned to meet the needs of kindergartners, grade teachers, art teachers, and all who wish a good working foundation in design. It discusses suitable problems and presents methods of teaching design to children in the elementary schools. It is not primarily a technical course, and previous knowledge of the subject is not essential. The work is presented in the following five groups: (1) printing; (2) units of design; (3) borders and surfaces; (4) color; (5) structure. The number of lessons in each group will vary according to the student's expressed needs; that is, the emphasis may be upon methods of teaching, technique, or the history of design. Mj. MISS WHITTIER.

3. Illustration.—A course planned for kindergartners and primary teachers. It includes a study of the following topics: (1) illustrations in children's books; (2) illustrations for familiar stories; (3) pictorial composition; (4) blackboard sketching. The technical work gives sufficient practice in drawing to enable the student to make simple illustrations. Mj. MISS WHITTIER AND MISS CLARK.

4. Structural Design.—A course planned to meet the needs of all interested in the following subjects: cardboard and paper construction; woodwork; metal work; clay work; textiles. The emphasis is upon the structural side, but a minimum amount of decorative design is discussed. Prerequisite: course 2 or its equivalent. Mj. MISS WHITTIER AND MISS CLARK.

5. Costume Design.—This course is planned for upper-grade and high-school work and gives a good working knowledge of the fine qualities in raiment

which express in best terms the superior mental and physical character of individuals. It establishes standards for judging and presenting the principles underlying drawing, structural design, and color in their direct and corrective application to costume. It discusses the place and contribution of the subject to the individual, the problem of fashion, and historic types, using these as contributive material to originality of conception. The technical work includes sufficient practice in drawing for the expression of ideas and to help graphic memory. **Mj. MISS WHITTIER AND MISS CLARK.**

6. Household Design.—This course presents the subject by means of theory and practice simplified to meet the problem of the average citizen of average income and undertakes to stimulate and develop superaverage aesthetic comprehension and power. It presents the principles underlying the use of color and of structural and decorative design, and calls for sufficient illustration to insure a clear understanding of the basis for judgment. It discusses practical and aesthetic values regarding the home, exterior and interior, and, in a general way, civic environment and historic types. Teachers interested in upper-grade and high-school drawing should consider the possibilities for broader interpretation and application to life-needs in the subject of Household Design. The technical work includes sufficient practice in drawing and construction to enable the student to record ideas. **Mj. MISS WHITTIER AND MISS CLARK.**

NOTE.—Related courses are offered in Philosophy, Education, History of Art, and Household Administration.

DRAWING

An introductory course, Freehand Drawing, and three series of courses, **A. Mechanical Drawing, B. Architectural Drawing, C. Descriptive Geometry**, afford opportunity to begin the study of drawing and to continue it to a point where knowledge of higher mathematics—e.g., calculus, mechanics, etc.—conditions further progress. "Freehand Drawing" with any one of the series offers what is usually done in the first two years in the best technological schools. While open to anyone they will appeal especially to those who wish thorough training in the fundamentals of the science, whether for immediate practical purposes in the office, shop, or classroom, or as a preparation for Mechanical, Electrical, and Civil Engineering, or for Architectural Drawing.

One may take any Major in any one of the three series for which he is prepared, though in most cases it will be found advisable, if not necessary, to begin with the first Major. Admission to any Major except the first one of a series is conditioned upon the approval of the instructor, who will base his decision upon a statement and exhibit of previous work. The University reserves the right to retain one drawing from the student's set in each Major and to determine whether admission or college credit shall be allowed.

The materials required in any Major will be sent, express collect, upon receipt of the amount given, which is the lowest that can be quoted for a good quality. The weight of the case and the price of the textbook will enable the student to determine the exact cost of each Major.

Material required in "Freehand Drawing."—Six sheets of Whatman's cold-pressed paper, 22×30 inches; 8 sheets of chalk-talk paper, 14×20 inches; 3 Koh-i-noor pencils, 3H; 1 pencil-eraser, No. 211; 1 dozen thumb tacks, steel-stamped, $\frac{3}{8}$ inch diameter; 1 box of French charcoal; 1 bottle of fixatif, two-ounce; 1 tin atomizer; 1 box "Star" chalks, six assorted colors; 1 drawing-board, 18×24 inches; and models of different solids.

Material required in courses A1, 2, 3, 4, 5; B2, 3, 4, 5; and C1, 2, 3, 4.—One drawing-board, 18×24 inches; 1 set drawing instruments in folding pocketbook style case, No. 422; 1 T-square, mahogany, ebony-lined fixed head, 24 inches; 1 amber triangle, 45°, 8 inches; 1 amber triangle, 30°×60°, 10 inches; 1 triangular boxwood rule, architect's, 12 inches; 1 flat boxwood scale, 6 inches, divided $\frac{1}{16}$ and $\frac{1}{32}$; 1 French amber curve, No. 1; 1 dozen sheets of Whatman's hot-pressed paper, 22×30 inches; 6 Koh-i-noor pencils, assorted, 3H and 6H; 1 bottle each

of Higgins' carmine, black, and blue ink; 1 dozen thumb tacks, steel-stamped, $\frac{3}{8}$ inch diameter; 1 Faber's pencil-eraser, No. 211; 1 Faber's ink-eraser, No. 2604; 1 Hardtmuth's soft pliable rubber, No. 12; 1 file, 4 inches; 1 penholder; 3 ball-pointed pens.

Freehand Drawing.—A course preparatory to each of the series described below except the second, in which it is required. It gives that thorough training of the eye and hand which is so necessary in all work requiring accuracy in observation and measurement. While this is primarily its purpose, the course offers the work required in most of the public schools of the country preparatory to teaching Freehand Drawing. Although it does not deal with the pedagogy of the subject it provides a practical and pedagogically correct working basis in this subject, and can be recommended, therefore, to all grade teachers and to others who are expected to teach Freehand Drawing in connection with their special work. The course embraces the following divisions: (a) *Freehand Projection*—to familiarize the student with the various views of an object and their proper arrangement upon the sheet, by which all the facts of size, form, and proportion are shown, together with perspective sketches of the object, 6 drawings; (b) *Model Drawing of Type-Forms*—outline sketching in perspective, of the cube, cylinder, and other geometrical solids, introducing the principles of perspective as applied to small objects, 6 drawings; (c) *Model Drawing, Groups*—outline drawings of solids and other objects to teach composition and perspective, 6 drawings; (d) *Light and Shade*—pencil studies of the type solids and original groups of objects, to give practice in obtaining quick effects in black and white, 6 drawings; (e) *Color Work*—color studies with chalks, to teach an appreciation of surface, texture, and the proper juxtaposition of colors as applied to groups of objects, 6 drawings; (f) *Pen-and-Ink Studies* of single objects and original groups, involving outline, light and shade, texture, surface, etc., 6 drawings; in all, 36 drawings. No textbook is required. Cost of materials ready for shipment, \$3.00; weight of package, 18 pounds. Mj. MR. FERGUSON.

A. Mechanical Drawing.—

1. *Projective Geometry.*—(a) Preparatory work: this includes the use of instruments, laying out, penciling, inking-in, lettering, with practice work to learn accuracy of measurement and of line, 3 drawings. (b) Graphic geometry: this is intended to give the student a mastery of the various geometrical constructions which form the basis of all work in projection, descriptive geometry, and constructive drawing, whether mechanical or architectural, and at the same time to give facility in the use of the instruments, 6 drawings. (c) Projection: this will include the projection of points, lines, planes, and solids, 6 drawings; in all, 15 drawings. Textbook: Linus Faunce's *Mechanical Drawing*, \$1.25 net. Cost of materials ready for shipment, \$15.00; weight of package, 18 pounds. Mj. MR. FERGUSON.

2. *Constructive Drawing.*—(a) Intersections, including conic sections, oblique sections, intersections, and developments, 6 drawings. (b) Shadows: the first angle projection of shadows, 3 drawings. (c) Isometric projections with projections of shadow, 3 drawings. (d) Oblique or cabinet projection, 3 drawings; in all, 15 drawings. Textbook and equipment for this course same as for A1. Prerequisite: course A1. Mj. MR. FERGUSON.

3. *Machine Details.*—This course is intended to familiarize the student with the various parts of machines that have come to be recognized as standards and which are used in the construction of new machines. Standard sections for materials, fastenings, couplings, bearings, engine details, etc., 10 drawings. Textbook: Low and Bevis' *Manual of Machine Drawing and Design*, \$2.50 net. The equipment for A1 will suffice for this course also. Prerequisite: course A2. Mj. MR. FERGUSON.

4. *Gear Construction.*—Spur-gears, bevel, spiral, worm, elliptic, involute and cycloid teeth, hubs, arms, rims, etc., 10 drawings. Textbook: George B. Grant's *Teeth of Gears*, \$1.10 net; equipment, same as for A1. Prerequisite: course A3. Mj. MR. FERGUSON.

5. *Shop Drawing*.—(a) Machines from freehand sketches and measurement details and an assembled drawing of some piece of machinery; (b) tracing and blue-printing. Five drawings with their tracings and blueprints will be accepted for this course; in all, 15 sheets. No textbook is required; equipment, same as for A1. Prerequisite: course A4. Mj. MR. FERSON.

B. Architectural Drawing.—This series gives the student a good working knowledge of the essentials in architecture; history, the orders, the principles of the designing of dwelling-houses, office work in rendering, perspective, and detailing, together with tracing and blueprinting. As the success of the student in architecture is so completely dependent upon his knowledge of, and practice in, all the departments of freehand drawing and sketching, it is absolutely essential that the introductory Major, "Freehand Drawing," should be taken first, so it is made the first Major of the series.

1. *Freehand Drawing*.—Mj. MR. FERSON.

2. *Projective Geometry*.—Same as A1. Mj. MR. FERSON.

3. *Constructive Drawing*.—Same as A2. Mj. MR. FERSON.

4. *Architectural Details*.—(a) "The Orders," 10 drawings; (b) details of architectural construction from measurements, 2 drawings; in all, 12 drawings. Textbooks: Hamlin's *Architectural History*, \$1.75 net, and Ware's *American Vignola*, Part I, "The Orders," \$2.50 net. Equipment for this course same as for A1. Prerequisite: course B3. Mj. MR. FERSON.

5. *Architectural Design*.—(a) Domestic plans, from copy, 4 drawings; (b) design of some small building, 4 drawings; (c) tracings and blueprints, 4 tracings with their prints, 8 sheets; in all, 16 drawings. No textbook is required. Equipment, same as for A1. Prerequisite: course B4. Mj. MR. FERSON.

C. Descriptive Geometry.—This series is for those who wish to go into the higher mathematics, but have had no training in the graphic side of the subject. It consists of:

1. *Projective Geometry*.—Same as A1. Mj. MR. FERSON.

2. *Constructive Drawing*.—Same as A2. Mj. MR. FERSON.

3. *Theoretical Graphics*.—Problems in points, lines, planes, and straight-surfaced solids; 15 drawings. Textbook: Church's *Descriptive Geometry*, \$2.50 net; equipment, same as for A1. Mj. MR. FERSON.

4. *Practical Graphics*.—Curved and warped surfaces, shades and shadows, developments; 15 drawings. Textbook: same as for C3; equipment, same as for A1. Mj. MR. FERSON.

COMPARATIVE RELIGION

1. **Introduction to the History of Religion.**—This course is elementary in character and aims to conduct the student into the study of the general principles of religion and to outline the history of the various religions of the world. Mj. ASSISTANT PROFESSOR CONARD.

2. **The Religion of Uncivilized Peoples.**—This course surveys primitive religious customs and beliefs, noting their survivals in higher religions. The first part of the course consists of a general study of the religion of uncivilized peoples. In the second part a special study is made of the religion of the North American Indians or of some other uncivilized people, concerning whom material is available to the student. Mj. ASSISTANT PROFESSOR CONARD.

3. **The Evolution of the Idea of God.**—This is a cursory study of the idea of God as seen in primitive myth and cult and in the religious rites and literature of the chief historic religions. Prerequisite: course 1 or 2 or an equivalent. Mj. ASSISTANT PROFESSOR CONARD.

4. **The History of Prayer.**—A study of the evolution of prayer, with particular reference to the ethical ideals and the conception of God expressed and implied in prayer. The material for study is taken from the great historic religions. Prerequisite: course 1 or 2 or an equivalent. Mj. ASSISTANT PROFESSOR CONARD.

5. The Religions of India.—The aim of this course is to give a brief outline of the mythology and religion of the Vedas and an account of the three great Hindu religions—Brahmanism, Buddhism, and Hinduism. A knowledge of these is absolutely essential to the student of comparative religion. Mj. ASSISTANT PROFESSOR CLARK.

OLD TESTAMENT LITERATURE AND INTERPRETATION AND ORIENTAL LANGUAGES AND LITERATURES

1. An Introduction to the Old Testament.—This study emphasizes such points as will familiarize one with the outline features of the books of the Old Testament. It describes: (1) the means adopted to preserve the ancient records; (2) the method of compiling and editing those documents; (3) the historical background of the Old Testament books; (4) the literary character of each book; (5) its chief doctrinal teachings; (6) its place in the scheme of biblical revelation; and (7) the best literature with which to pursue and solve its problems. The work is planned on a practical basis, and aims to give students a reasonably complete idea of the new and real advances that have been made in the last few decades in the understanding of the Old Testament. Mj. PROFESSOR PRICE.

2. Outline of Hebrew History.—A survey study of the history of the Hebrew people as presented in the Old Testament from the period of the conquest and establishment in Canaan to the Maccabean struggle and the close of Old Testament history. The course embraces a preliminary sketch of the patriarchal period, with a more detailed study of the conquest, the period of the Judges, the united and divided kingdoms, the exile, the revival of Judah, and the beginnings of Judaism. The bearings of prophetic activity upon the history and literature also receive consideration. Mj. MR. HENRY.

3. Old Testament Prophecy.—The purpose of this course is to aid in securing a better understanding of the rise and development of prophecy in Israel. Some of the more important matters to be considered are: (1) the controlling ideas in the teaching of each of the great prophets; (2) the relation of the prophet and his work to the political and social movements of his day; (3) the attitude of the prophet toward the priest and priestly institutions; (4) the place of prophecy in the preparation for the work of Christ. Mj. MR. HENRY.

4. Old Testament Worship.—A study of the element of worship and the institutions and literature connected with worship in the Old Testament. Special consideration will be given to such topics as: (1) the priest; (2) place of worship; (3) sacrifice; (4) feasts; (5) tithes; (6) clean and unclean, etc.; (7) the origin and character of the Sabbath; (8) the date and character of Deuteronomy; (9) the origin of the Levitical legislation; (10) the composition of the Hexateuch. Attention will be given to the characteristic ideas of the priest as distinguished from those of the prophet and to the growth of priestly influence in Israel's religious life. Mj. MR. HENRY.

5. Elementary Hebrew.—Includes the mastery of the Hebrew of Genesis, chaps. 1-3; the study of the most important principles of the language in connection with these chapters; Hebrew grammar, including the strong verb and seven classes of weak verbs; and the acquisition of a vocabulary of four hundred words. Mj. MR. HENRY.

6. Intermediate Hebrew.—Includes the critical study of Genesis, chaps. 4-8, with a review of Genesis, chaps. 1-3; the more rapid reading of fourteen chapters in I Samuel, Ruth, and Jonah; the completion of the outlines of Hebrew grammar and an increase of vocabulary to eight hundred words. Mj. MR. HENRY.

7. Exodus and Hebrew Grammar.—Includes the critical study and translation of Exodus, chaps. 1-24; a more detailed study of Hebrew grammar; an inductive study of Hebrew syntax; and the memorizing of three hundred additional words and of several familiar psalms in Hebrew. Mj. MR. HENRY.

8. Haggai, Zechariah, and Malachi.—A course of twenty recitations, including the critical and exegetical study of these books; the lexicographical study of two hundred important words; the principles of Hebrew prophecy; a study of Hebrew syntax, especially the subjects of the tense and sentence; the Hebrew accentuation; and the memorizing of about eight hundred words. M. MR. HENRY.

9. Elementary Arabic.—An inductive study of the elementary principles of Arabic grammar. The Arabic grammar of Socin, together with the exercises and stories contained therein, furnish the basis of the work. The course should prove useful to the needs of three classes of students: (1) those interested in the Old Testament or in certain phases of New Testament study, as proper use of a good Hebrew lexicon demands some knowledge of Arabic; (2) those who expect to do mission work in lands where Mohammedans are found (Turkey, Persia, Egypt, Northern and Middle Africa, Western China, India, the Philippines, etc.); some knowledge of Arabic, the Koran, and the Tradition is indispensable to the mission worker, and should be acquired before he is completely engrossed by field work; (3) those who desire more intimate acquaintance with the great portion of the world's literature written in the Arabic tongue. Mj. ASSISTANT PROFESSOR SPRENGLING.

10. Advanced Arabic.—Three Majors of advanced work may be taken. The texts to be read will be selected from Brünnow-Fischer, *Arabische Chrestomathie*, and from the Semitic Study Series, according to the needs of the student. Hava's *Arabic-English Dictionary* is recommended; Wortabet or Steingass may be used. Wright's *Arabic Grammar*, third edition, should be in the hands of the student. ASSISTANT PROFESSOR SPRENGLING.

11. Literature and History of the Arabs.—Courses for students not conversant with the Arabic language are in preparation. Inquiries concerning work of this nature may be addressed to the instructor. ASSISTANT PROFESSOR SPRENGLING.

12. Elementary Assyrian.—The cuneiform text as well as the transliteration is used from the beginning. The student learns the most common cuneiform signs, the strong verb and all classes of weak verbs, and the fundamental principles of the language. A knowledge of Hebrew is prerequisite. M. PROFESSOR BERRY.

13. Intermediate Assyrian.—This includes the reading of several hundred lines of historical cuneiform text, with special attention to vocabulary, a further study of Assyrian grammar, including syntax, and the learning of most of the remaining cuneiform signs that are in frequent use. M. PROFESSOR BERRY.

14. Elementary Egyptian.—A beginning course based on a study of: (1) the autobiography of the nobleman Ameni and (2) folk-tales from the Westcar Papyrus (as transliterated from the hieratic). The commonest signs will be mastered, along with the grammatical usages of the classic period. Mj. DR. ALLEN.

15. Advanced Egyptian.—The historical inscriptions of the Eighteenth Dynasty will be studied, using Sethe's *Urkunden*. Mj. PROFESSOR BREASTED.

16. Elementary Russian.—

A. After a general study of the declensions and conjugations, texts supplied with extensive notes will be taken up and mastered. Mj.

B. Continues the study of texts with review of inflectional forms. The vocabulary will be enlarged by the study of roots and suffixes. Elementary composition. Extensive syntax study. Mj.

ASSISTANT PROFESSOR HARPER.

Members of these Departments will endeavor to arrange informal courses for students who are prepared to do work of an advanced nature, whenever practicable.

NOTE.—Related courses are offered in History, Comparative Religion, and General Literature.

NEW TESTAMENT AND EARLY CHRISTIAN LITERATURE

1. Jewish History in the Time of Jesus.—The Jewish people in the Roman Empire; geography, population, and languages of Palestine; influence of Hellenism; political events and parties; industrial, social, and intellectual life; religious groups and institutions; moral and religious ideas—an introduction to the study of the life and teaching of Jesus. This course corresponds in general to course 1 in residence, which is required of candidates for the D.B. degree. Mj. ASSOCIATE PROFESSOR VOTAW.

2. Life of Jesus.—A comprehensive and systematic historical study of Jesus' purpose, method, message, deeds, and personality, in general aspects. The forty lessons include such topics as: the characteristics of the gospels as historical sources, Jewish messianism, Jesus' aim and method in his ministry, the parables, the miracles, the Christology of the gospels, and the historical significance of Jesus. The course constitutes an introduction to the study of the teaching of Jesus. A knowledge of New Testament Greek is not required, but is valuable. To accommodate two well-defined types of students the course is presented in two grades: in its simple form it corresponds in general to the college course New Testament 106; in its advanced form to the graduate course New Testament 5. Mj. ASSOCIATE PROFESSOR VOTAW.

3. The Teaching of Jesus.—The four gospels will be investigated as to their origin, characteristics, trustworthiness, and the manner of their use for ascertaining the teaching of Jesus. The chief ideas and characteristics of Judaism in Jesus' day will be studied as the historical background to his teaching; also the development of Jesus' own religious experience and ideas, and the aim, limits, style, and method of his teaching. Then will follow typically a comprehensive, careful study of the content of Jesus' teaching. Mj. ASSOCIATE PROFESSOR VOTAW.

4. History of the Apostolic Age.—This course, corresponding to course 8 in residence, covers the history of Christianity from Jesus' death to the end of the first century. Among the more important topics studied are: (1) the experiences of the primitive Christians at Jerusalem; (2) the beginnings of missions; (3) the relations between Judaism and Christianity; (4) the missionary work of Paul; (5) Christianity's contact with the religions of the Greco-Roman world; (6) the growth of church ritual and organization; (7) the origin and content of early Christian doctrines; (8) the rise of Christian literature. Mj. PROFESSOR CASE.

5. Introduction to the Books of the New Testament.—

A. Life of the Apostle Paul and Introduction to the Pauline Epistles.—The work in this course is done on the basis of a handbook containing suggestions for detailed studies and outlines of the various New Testament books. The aim in this first part is to prepare the student for the interpretation of the letters of Paul and for an understanding of his personality and theology. Mj.

B. Introduction to the Gospels, Acts, and General Epistles.—Includes the study of the occasion and purpose of each book and its general content and structure. Mj.

PROFESSOR BURTON AND ASSISTANT PROFESSOR SEVERN.

6. The Ethical Teaching of the New Testament.—The moral ideal of Jesus is to be studied on the basis of the Sermon on the Mount, supplemented by material from other portions of the gospels. The specific principles set forth by Jesus, and the application which he made of them to his own life and to the conduct of others, will be interpreted. Similarly, the moral ideal of Paul, with its principles and applications, will be considered. Finally, there is a comparison and summary of the whole ethical teaching of the New Testament. Mj. ASSOCIATE PROFESSOR VOTAW.

7. Elementary New Testament Greek.—A course for beginners, presupposing no knowledge of Greek. It aims to secure, by an inductive study, the

absolute mastery of chaps. 1-4 of the Gospel of John and the essential facts and principles of the language. Emphasis is placed upon the writing of exercises in Greek. Mj. ASSISTANT PROFESSOR SEVERN.

8. Intermediate New Testament Greek.—This course is designed for those who have completed course 7 and for those who wish to review their Greek in connection with the New Testament. It comprises the thorough study of the entire Gospel of John and the reading at sight of the First Epistle of John; also the acquisition of vocabulary and the most general principles of grammar. One who has diligently worked through this course should be able, with the aid of the lexicon, to read the New Testament with comparative ease. Mj. ASSISTANT PROFESSOR SEVERN.

9. The Greek of the New Testament.—Using the Gospel of Mark a thorough study is made of the syntax of New Testament Greek. The course corresponds to course 41 in residence and is recommended for the D.B. degree. Prerequisite: courses 7 and 8 or equivalent instruction in classical Greek. Mj. ASSOCIATE PROFESSOR VOTAW.

10. The Apostolic Fathers.—The course includes a study of: (1) the early Christian literature *ca.* 95-150 A.D.; (2) problems of date, authorship, and purpose; (3) reading of the Greek; and (4) studies in theology and polity. Outlines of the literature will be provided, and reports covering the topics given above will be required. The later development of New Testament ideas and practices, as reflected in this early Christian literature, will be especially emphasized. Mj. PROFESSOR GOODSPEED AND ASSISTANT PROFESSOR SEVERN.

ENGLISH THEOLOGICAL SEMINARY

3B. New Testament Times in Palestine.—(Cf. p. 74.)

SYSTEMATIC THEOLOGY

1. Outline Course in Systematic Theology.—The course is intended to give a general acquaintance with the field of systematic theology, with especial reference to the problems which are today attracting chief attention. The first half of the course is devoted to a general introduction to the subject; the second half to the content of systematic theology. The contents of textbooks prescribed are to be carefully analyzed and criticized on the basis of questions and topics furnished by the instructor. This study is of real value as a general survey, but does not command credit for the D.B. degree. Mj. PROFESSOR SMITH.

2. Systematic Theology.—

A. This course discusses the task and method of systematic theology in the light of modern conditions and sets forth the Christian doctrine of God. It is accepted as the equivalent of the first prescribed course (Systematic Theology I) for the D.B. degree. Mj.

B. This course covers the doctrines of sin and salvation and the person and work of Christ. It is accepted as the equivalent of the second prescribed course (Systematic Theology II) for the D.B. degree. Mj.

C. This course deals with the religious and ethical implications of the Christian experience, including a study of the Christian life in both religious and moral experiences. It is accepted as the equivalent of the third prescribed course (Systematic Theology III) for the D.B. degree. Mj.

PROFESSOR SMITH.

3. Christian Ethics.—This course sets forth the moral aspects of the Christian religious experience. The Christian moral ideal is compared with the various ethical ideals expounded by moral philosophers. The ethical ideal of Jesus is carefully studied with suggestions as to the method of determining duty in the various fields of human activity. An analysis of the important social problems of today serves to call attention to the field of constructive Christian activity. Mj. PROFESSOR SMITH.

4. Apologetics.—This course is intended to acquaint the student with the general outlines of a defense of Christianity. In the first place the content of Christianity which must be defended is sought on the basis of a historical study of the sources and history of Christianity. The ultimate elements of Christian faith are then defined and justified in the light of modern thought. Questions and topics suggested by the required textbooks are to be discussed in written papers by the student. Prerequisite: course 2 or an equivalent. Mj. PROFESSOR SMITH.

5. The Theological Significance of Leading Movements of Thought in the Nineteenth Century.—Modern idealistic philosophy, the theological principles of Schleiermacher and of Ritschl, the development of biblical criticism, the growing influence of natural science, the rise of the philosophy of evolution, and the significance of the Pragmatist movement are the chief topics for study. The problems raised for theology by these movements will be carefully considered. Those taking the course should have access to an adequate library or should be willing to incur considerable expense for books. Prerequisite: course 4 or its equivalent and a general acquaintance with the history of modern philosophy. (Informal.) DMj. PROFESSOR SMITH.

NOTE.—Related courses are offered in Philosophy, Psychology, Sociology, and Comparative Religion.

ENGLISH THEOLOGICAL SEMINARY

4B. Outline of Systematic Theology.—(Cf. p. 74.)

CHURCH HISTORY

1. Outlines of Church History.—A survey of church history from the founding of the church in Jerusalem to the present time, with special emphasis upon the Ancient (100–800 A.D.) and Reformation (1517–1648 A.D.) periods. Some of the most important subjects that will come under investigation are: (1) the conflict of the church with heathenism in the Roman Empire; (2) the rise and growth of the papacy; (3) heresies, controversies, and parties within the church; (4) the missionary expansion of the western church; (5) the struggle between the papacy and the empire for supremacy; (6) the rise and progress of the Reformation in Germany, France, Switzerland, England, and Scotland, and (7) the recent development of the Protestant churches in Europe and America. Mj. ASSISTANT PROFESSOR GATES.

2. The Protestant Reformation.—Extent and state of Christendom at the opening of the sixteenth century; new forces that sweep away the old order of things; Zwingli, Luther, Calvin, as expressions of the spirit of the new era; estimate of the movement in its relations to the general historic process. Mj. ASSOCIATE PROFESSOR MONCRIEF.

PRACTICAL THEOLOGY

1. The Theory of Preaching.—This course corresponds to residence course 1 and embraces a study of the character and purpose of the sermon, the methods of preparation, and the manner of delivery. The laws of effective popular discourse are studied inductively in connection with the preparation of sermons by the student. Prerequisite: college instruction in composition and rhetoric equivalent to that provided in "English III"; cf. p. 41. Mj. PROFESSOR SOARES.

2. Principles and Organization of Religious Education.—The course provides a general introduction to the field of religious education. At the outset the religious life and its place in human development are defined, and the aim of religious education is made clear. This leads the student to investigate the neighboring fields of psychology and education to discover their contributions to the subject. The moral and religious development of the growing child is considered

genetically, and examination is made of available material to determine its value in the various stages of child life. Institutions or agencies through which this tested material may be mediated are pointed out and the special opportunities of the home, the public school, the library, and the church are indicated. Other community factors are discussed and a basis of co-ordinating all agencies is formulated. Some attention is given to the organization of the modern Sunday school. Mj. PROFESSOR EVANS.

3. The Modern Sunday School.—This course discusses in detail some of the concrete problems of the modern graded Sunday school: (1) underlying ideals; (2) graded curricula; (3) relative value of the more important series of textbooks; (4) departmental organization and methods of grading pupils; (5) the important element of worship; (6) methods of handwork; (7) the library; (8) the secretary's department; (9) the social life of the school and its relation to the young people's societies and other clubs and organizations; (10) the religious life of the school and educational evangelism; (11) programs of teacher training both within the local church and in city institutes. A graded program of altruistic activity is offered and its relation to the worship and instruction phases is indicated. The course aims to present a workable program for the modern Sunday school based upon the assured results of advanced thinkers and workers in this field. Instruction is by means of textbooks, topics for special study, reports on local observation, and lesson outlines which guide the student in his study of these problems. The course will be of special value to superintendents, lay workers, and pastors who wish to learn more of the best Sunday-school methodology. Anyone who has had high-school training can pursue the course with profit. Prerequisite: if University credit is desired, "Elementary Psychology" or an equivalent course. Mj. PROFESSOR EVANS.

NOTE.—Related courses are offered in Philosophy, Psychology, Education, Sociology, and Comparative Religion.

ENGLISH THEOLOGICAL SEMINARY

1B. Homiletics.—(Cf. below.)

2B. Outline Course on Pastoral Duties.—(Cf. below.)

VII. THE ENGLISH THEOLOGICAL SEMINARY

I. GENERAL INFORMATION

The English Theological Seminary of the University of Chicago is intended to meet the needs of students who have not had the advantages of a college education and is open to all denominations of Christians. The applicant must present a ministerial license, or a certificate of ordination, or a statement from the church of which he is a member, approving of his purpose of devoting himself to the Christian ministry or other Christian service. He must also furnish the University, when requested, information concerning his church relations, etc. He will pay the University matriculation fee, \$5.00, once, and \$3.00 for each English Theological Seminary course chosen. The reinstatement fee for each of these courses is \$2.00.

II. COURSES OF INSTRUCTION

NOTE.—No credit toward any degree is allowed for these courses. They count only toward the English Theological Seminary certificate. A description of any of the following courses will be sent on application.

1B. Homiletics.

2B. Outline Course on Pastoral Duties.

3B. New Testament Times in Palestine.

4B. Outline of Systematic Theology.

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HENRY FREMONT KEEN, Extension Instructor in Accounting.

HENRIETTA BECKER VON KLENZE, PH.D., Extension Instructor in German.

DANIEL PETER MACMILLAN, PH.D., Extension Instructor in Psychology.

RUTH RAYMOND, Extension Instructor in Home Economics.

EMMA SCHRADER, PH.M., Extension Instructor in General Literature.

AMY RACHEL WHITTIER, Extension Instructor in Design.

KATHARINE ALLEN GRAHAM, PH.B., Assistant in English.

LIBBIE HENRIETTA HYMAN, PH.D., Assistant in Zoölogy.

ROY BATCHELDER NELSON, A.B., Assistant in Greek.

CLARENCE ELMER RAINWATER, A.M., Assistant in Sociology.

THOMAS GEORGE ALLEN, PH.D., Extension Assistant in Oriental Languages and Literatures.

LOUISE CLARK, Extension Assistant in Design.

ELDON COBB EVANS, A.M., PH.D., Extension Assistant in Political Science.

EDWARD ATWOOD HENRY, D.B., Extension Assistant in the Old Testament Language and Literature.

IVAN SEYMOUR NOWLAN, B.TH., A.M., Extension Assistant in Practical Theology.

JOHN ARTHUR POWELL, PH.D., Extension Assistant in English.

III. GENERAL INFORMATION

Extra-mural Teaching.—All non-resident work for credit is conducted through the Correspondence-Study Department.

1. Teaching by Correspondence.—Experience has shown that many subjects can be taught successfully by correspondence. Direction and correction can often be given as effectively in writing as by word of mouth. Obviously self-reliance, initiative, perseverance, accuracy, and kindred qualities are peculiarly encouraged and developed by this method of instruction.

2. Purpose and Constituency.—Through the Correspondence-Study Department the University offers a large number of the courses given in the classrooms of its different divisions so that those whose formal schooling has been interrupted may continue their studies. The aim is to extend as fast and as far as possible the means and privileges of academic training. Besides contributing to culture, many of the courses, because of their bearing on problems of everyday life, may be turned to immediate practical account.

The courses appeal especially to the following classes: (1) students preparing for college or professional schools; (2) college students who are unable to pursue continuous residence study; (3) grammar and high-school teachers who cannot avail themselves of resident instruction; (4) instructors in higher institutions who desire assistance in the advanced study of some subject; (5) professional and business men who wish to supplement their training; (6) ministers and Bible students who would fit themselves better to use the Scriptures; (7) parents uncertain how to deal wisely with their children; in short, anyone anywhere who desires broader knowledge or more thorough scholarship.

3. Method of Instruction.—Each correspondence course is designed to be equivalent to the corresponding residence course and contains therefore a definite amount of work. A **Major** (Mj.) calls for an amount of work which a student in residence would be expected to accomplish in twelve weeks, reciting five hours per week. A **Minor** (M.) calls for one-half as much work as a Major. The resident student who does full work completes three Majors every three months, but the correspondence student is allowed from twelve to fifteen months, according as he registers late or early in the quarter, for completing whatever number of Major or Minor courses he applies for (cf. § 6, *e* and *g*). On the other hand, he is permitted to finish courses as rapidly as is consistent with good work. Courses are of two kinds, formal and informal.

a) The "formal" course furnishes a systematic and progressive presentation of the subject in a given number of lessons (cf. § 6, *o*). Each lesson contains: (1) full directions for study, including references to the textbooks by chapter and page; (2) necessary suggestions and assistance; (3) questions to test the student's methods of work as well as his understanding of the ground covered. After preparing for recitation the student writes his answers to the questions and mails them to the instructor, together with any difficulties which may have arisen during his study. This recitation paper is promptly corrected and returned. In like manner every lesson is carefully criticized by the instructor and returned, so that each student receives *personal guidance and instruction* throughout the course.

b) The "informal" course is designed for students who are pursuing studies of an advanced nature. The course is usually arranged between instructor and student to meet the particular needs of the latter. The formal lesson sheet is

dispensed with, but the course is carefully outlined by the instructor, and the student is required to present satisfactory evidence that the work is being properly done. This evidence may consist of a number of short papers on special themes, a thesis covering the whole work, or it may partake rather of the nature of ordinary correspondence. Courses are "formal" when not otherwise indicated.

4. Admission.¹—(a) No preliminary examination or proof of previous work is required of applicants for correspondence courses. Before matriculating or registering a student, however, the University does require certain information and reserves the right to reject applicants, or to recommend other courses than those chosen, if the data furnished on the application blank justify such action. If the applicant is rejected or the substitution recommended is not accepted by the student, all fees are refunded. The application blank will be supplied upon request. *In every case it should accompany the fee for a new course.*

b) A correspondence student whose standing in one of the Colleges or Schools of the University has not been determined is ranked as an *unclassified student*.

5. Recognition for Work.—(a) A certificate is granted for the satisfactory completion of the recitation work in any Major or Minor course.

b) Admission credit is given for courses covering college-entrance requirements which are satisfactorily completed and passed by examination.

c) College credit is given for courses of a college grade satisfactorily completed and passed by examination (cf. § 6, b, 1).

d) If the student has a record of residence work in the University, credit gained through correspondence courses is immediately transferred to that record; if not, it is held in the Correspondence-Study Department until the student secures such a record.

e) See also "Regulations" (a) and (b) below.

6. Regulations.—(a) The University of Chicago grants no degree for work done wholly in absence. A *minimum* of nine Majors (three full quarters) in residence at the University of Chicago is an unvarying requisite for any degree.

b) Correspondence courses are applicable to the requirements for the different degrees as follows: (1) The candidate for a Bachelor's degree (A.B., Ph.B., or S.B.) may do eighteen of the required thirty-six Majors of college work by correspondence. (2) The candidate for the medical degree (M.D.), or for the law degree (LL.B. or J.D.), or for the Master's degree (A.M. or S.M.) may not reduce the requirements for his degree *in absentia* because the University gives no instruction in Law or Medicine by correspondence, and the maximum resident time and study requirement for the Master's degree does not exceed the minimum requirement (nine months and nine majors) for any degree. (3) The candidate for the Doctor's degree (Ph.D.) may substitute correspondence for residence work *only* on approval, in advance, of the head of the department in which his work lies. Three years of resident graduate study are expected for this degree. Very few non-resident students command the necessary library or laboratory facilities for graduate study.

NOTE.—The University of Chicago's Bachelor degree, or its full equivalent, is prerequisite for admission to candidacy for a Master's or a Doctor's degree. If a student presents a baccalaureate degree inferior to the University's degree by less than nine (9) majors, he can make it equivalent by means of correspondence courses and thus be free to devote his entire time in residence to graduate work.

¹ If the student later comes to the University he must satisfy admission requirements (see *Circular of Information* of the Colleges and Graduate Schools, p. 37).

c) A student may begin a course for which he is prepared at any time, but he may not take more than three Majors during any period of three months nor more than one Major in any period of one month. His reports must be distributed with approximate evenness throughout the period of study. Reports may be refused by the secretary or by the instructor in the course concerned if the student attempts to compress his work unduly.

d) An undergraduate student may not carry on correspondence work while in residence without the written permission of the appropriate Dean.

e) A student is expected to complete all the courses for which he pays at any one time *within one year from the end* (i.e., March 23, June 23, September 23, December 23) of the quarter in which payment is made.

f) A student who, for any reason, does not report either by lesson or by letter within a period of ninety days may thereby forfeit his right to further instruction in the course.

g) Extension of time will be granted: (1) *for a period equal to the length of time which a correspondence student spends in resident study at the University of Chicago*, provided due notice is given the secretary and the instructor at both the beginning and the end of such resident study; (2) *for one full year from the date of expiration of the course* if, on account of sickness or other serious disability, the student has been unable to complete the course or courses within the prescribed time (cf. § 6, e), provided (a) he secures the consent of the secretary and his instructor and (b) pays \$4.00 for each Major course or \$2.00 for each Minor course he wishes to continue. Private arrangement for extension of time between the student and his instructor cannot be recognized by the Department.

h) In order to secure credit for a correspondence course, the student must pass an examination on it within six months from the end of the quarter in which he finishes the recitation work either at the University or, if elsewhere, under supervision which has been approved by the University.

i) During an instructor's vacation a substitute will be provided or the time for completing the course will be extended.

j) The fee for matriculation in the University (\$5.00) is required once, at the time of first registration, of each one who has not matriculated in the institution either as a resident or a correspondence student. The fee is general for the whole University.

k) The matriculation fee will not be refunded to a student whose application has been accepted (cf. § 4, a).

l) The tuition fee will not be refunded on account of a student's inability to enter upon or to continue a course.

m) The student must forward, with each lesson, postage (or, preferably, a stamped, self-directed envelope) for its return.

n) A student will be required to pay for but one Major of a Double Major (DMj.) course at a time unless he applies for both Majors.

o) Ordinarily a Major consists of forty and a Minor of twenty lessons; but there may be variations from this number in order to accommodate the work to the requirements of a particular course. Each course represents a definite amount of work (cf. § 3), the number of lessons into which it is divided being incidental.

p) A course announced as a Major may not be taken a Minor at a time.

q) Each correspondence course is equivalent to the corresponding residence course, and commands credit (cf. § 5) unless statement is made to the contrary.

r) All informal courses are Majors unless otherwise indicated.

7. Expenses.—(a) All fees are payable in advance.

b) The matriculation fee is \$5.00 (cf. § 6, j); the tuition fee for *each* Minor course is \$8.00; for one Major course, \$16.00. If a student registers *at the same time* for two Major courses the tuition fee is \$30.00; for three Major courses, \$40.00. No reduction is made for Minor or Review courses included in a combination. The tuition fee includes payment for the instruction sheets received. Books which cannot be borrowed (cf. § 10) must be purchased by the student. Ordinary textbooks are not loaned.

c) The student is required to inclose postage for the return of the lesson-papers (cf. § 6, m).

d) Money should be sent in the form of postal or express order or New York or Chicago draft, made payable to the University of Chicago. The Chicago clearing-house charges exchange on all other forms of remittance—15 cents on sums up to \$50.00.

8. Method of Registration (recapitulated).—(a) File with the Secretary of the Correspondence-Study Department a formal application for *each* course desired. The required application blank will be furnished upon request (cf. § 4, a).

b) *Forward with the formal application the necessary fees:* (1) \$5.00 for matriculation, if not matriculated in the University (cf. § 6, j); (2) \$8.00 for each Minor course, or \$16.00, \$30.00, or \$40.00, according as one, two, or three Major courses are applied for; (3) an additional fee for certain courses in the sciences.

9. Scholarships.¹

CLASS A.—Three scholarships, each yielding tuition in residence for one quarter (provided the regular charge for the same does not exceed \$40.00), are awarded annually on April 1 to the three students who have begun, completed, and passed the *greatest number* of Major correspondence courses (but at least four) that represent new advanced work, with a grade of B or better for each course, during the preceding twelve months. If two or more persons finish the same number of Majors, the scholarships will be awarded to those whose average grade for the courses in question is highest, and in case of a tie here, in the order in which they finish, beginning with the earliest.

CLASS B.—A scholarship yielding tuition in residence for one quarter (provided the regular charge for the same does not exceed \$40.00) is awarded to a student for *every four* Major correspondence courses that represent new advanced work which he has begun since April 1, 1904, completed, and passed with a grade of B or better for each course.

10. Books, etc.—For the convenience of students arrangements have been made through the usual channels of the University whereby supplies, such as books, maps, etc., which are needed in the different courses can be furnished at prices which will be quoted on application to the Correspondence-Study Department. Sometimes *books of reference* may be borrowed from the University libraries. Applications for loans should be addressed to the Director of Libraries of the University of Chicago.

¹ Scholarships are good for any quarter. Two Minors are equivalent to one Major.

IV. THREE PROGRAMS OF HIGH-SCHOOL WORK

The 15 units¹ of high-school work required for admission to the University must include:

3 units of English.

7 units of subjects in Groups 1-6 (see below), to include *at least* 3 units in a single group and *at least* 2 units in another single group.

5 units of any subjects for which credit toward its diploma is given by an approved school.

To fulfil admission requirements most effectively and to leave the maximum freedom of election in college, the following programs are recommended in preparation for college work leading to the different Bachelor degrees:

A.B.	Units	P.B.	Units	S.B.	Units
English.....	3	English.....	3	English.....	3
Greek.....	3	One foreign language 3 (or 2)	3 (or 2)	Science.....	3 (or 2)
Latin.....	4	History.....	2 (or 3)	Mathematics.....	2 (or 3)
Mathematics.....	2	Mathematics.....	2	One foreign language.....	2
Electives from Groups 3, 4, and 6.....	3	Science.....	2	History.....	2
		Electives from Groups 1-6	3	Electives from Groups 1-6	3
Total.....	15	Total.....	15	Total.....	15
Group 1.—Greek.					
Group 2.—Latin.					
Group 3.—Modern Language other than English (French, German, Spanish).					
Group 4.—History, Civics, Economics.					
Group 5.—Mathematics.					
Group 6.—Science (Physics, Chemistry, Botany, Zoölogy, General Biology, Physiology, Physiography, Geology, Astronomy).					

Any combination of the subjects within each group is permitted but not less than 1 unit of any subject may be offered. Not less than 1 unit of Algebra, Plane Geometry, Physics, Chemistry, or a language may be offered. To meet the 2 or the 3 units-in-a-single-group requirement in Groups 1, 2, or 3, the work offered must all be in *one* language.

Correspondence-Study Courses Which Offer High-School Work²

	Units
Political Economy—"Bookkeeping"	1½
History—"Outline History of Antiquity to 376 A.D." (A and B)	1
"Outline History of Europe" (A and B)	1
"Outline History of England" (A and B)	1
"Outline History of the United States" (A and B)	1
Greek—"Elementary Greek" (A and B)	1
"Xenophon: <i>Anabasis</i> " (A and B)	1
"Homer: <i>Iliad</i> " (A and B)	1
Latin—"Elementary Latin" (A and B)	1
"Caesar: <i>De Bello Gallico</i> " (A and B)	1
"Cicero: <i>Orationes</i> " (A and B)	1
"Vergil: <i>Aeneid</i> " (A and B)	1
French—"Elementary French" (A and B)	1
"Intermediate French" and "Advanced French"	1
Spanish—"Elementary Spanish" and "Intermediate Spanish"	1
German—"Elementary German" (A and B)	1
"Intermediate German" and "Elementary Prose Composition"	1
"German Idioms and Synonyms" and "Modern German Dramas"	1
English—"Prep. English Composition—A" and "Prep. English Literature—A"	1
"Prep. English Composition—B" and "Prep. English Literature—B"	1
Mathematics—"Elementary Algebra" (A, B, and C)	1½
"Plane Geometry" (DMj.)	1
"Solid Geometry"	1½
Physics—"Elementary Physics" (A and B)	1
Physiography—"Physical Geography"	1½
Drawing—"Freehand Drawing"	1½
"Projective Geometry"	1½

¹ A unit represents 120 sixty-minute recitation periods and may be made up by two Majors.

² These courses, when completed and passed, will be accepted in lieu of entrance requirements. Many of them will yield college credit if not offered for admission.

V. THE REQUIREMENTS FOR A BACHELOR'S DEGREE

A total of 66 Majors representing four years (15 units, approximately 30 Mjs.) of high-school work and four years (36 Mjs. with 72 "grade points") of college work are required for a Bachelor's degree. Any amount of the high-school work and as much as one-half (18) of the 36 Majors of college work may be done by correspondence.

REQUIRED COLLEGE WORK

1. *Specified Courses*.—"English I" and "English III."

2. *Continuation Courses*.—Three Majors of that subject in which 3 (or 2) units of admission work are offered or of that subject in which one unit of Senior high-school work is offered.

3. *Distribution Courses*.—Enough Majors in each of the following groups to make the total (high-school+college) credit 4 Majors (=2 units).

I. Philosophy, History, and the Social Sciences.

II. Language other than English (i.e., Greek, Latin, French, German, or Spanish). The four Majors must be in *one* language.

III. Mathematics.

IV. Science.

4. *Sequences*.—(a) One *principal* sequence of at least 9 coherent and progressive Majors taken in one department or in a group of departments. (b) One *secondary* sequence of at least 6 Majors selected from a different department or group of departments. These sequences must have the approval of the Dean. The work in the Divinity School, the Law School, the Courses in Medicine, or the College of Education may be counted in satisfaction of either sequence.

The degree of A.B. is conferred when the principal sequence consists of 11 Majors of Latin and 9 Majors of Greek (7 if all are of a college grade; cf. p. 31 of this circular), including entrance work. A secondary sequence of 6 Majors is also required.

The degree of Ph.B. is conferred when the principal sequence has been taken in any one of the subjects from Philosophy to General Literature, inclusive.

The degree of S.B. is conferred when the principal sequence has been taken in any one of the subjects from Mathematics to Hygiene and Bacteriology, inclusive.

Mathematics may, at the option of the student, be used as the principal sequence for either the Ph.B. or S.B. degree.

No courses counted in satisfaction of entrance requirements, or of the provisions of paragraphs 1 and 3, shall count in making up the principal and secondary sequences, except in the case of the 9- and 11-Major groups in the requirements for the A.B. degree.

Not more than 15 Majors may be taken in college in one department.

VI. COURSES OF INSTRUCTION

Note.—The number in parenthesis immediately following the title of a course is that of the equivalent in residence.

PHILOSOPHY

1. *Logic* (1).—The topics considered in this course are those usually included in a survey of logic—such as the concept; the various forms of judgment; inductive and deductive aspects of reasoning; the nature and use of the hypothesis; methods of inductive inquiry and experimental investigation; syllogisms and

fallacies, etc. Stress will be laid on the functional aspect of thought processes and attention will be called to underlying psychological principles. The aim throughout will be to emphasize the vital connection between logic and the practical problems of everyday life and to show that thinking in the strictly logical sense is a constructive process arising out of the needs of the individual and finding its value in enabling him to organize more adequately his experience and to deal more effectively with the subject-matter with which his thinking is concerned. The student may expect, accordingly, to acquire not only a practical knowledge of logic and a certain training in critical habits of thought but also a good basis for subsequent philosophical study. While "Elementary Psychology" is a helpful preliminary, the course may be taken with profit by those who are prepared for thorough study. Mj. ASSISTANT PROFESSOR ASHLEY.

2. Ethics (2).—An introductory course intended (1) to familiarize the student with the main aspects of ethical history and theory, and through this (2) to reach a method of estimating and controlling conduct. The main divisions of the course are: (a) the general nature of moral conduct; (b) a study of the evolution of the moral problem from primitive life to the present; (c) a comparative study of current ethical theories; (d) application of the foregoing to present problems of social and individual life. The course will be based on the text of Dewey and Tuft's *Ethics*, with collateral study of Mill's *Utilitarianism*, Kant's *Metaphysics of Ethics*, and Spencer's *Data of Ethics*. Mj. ASSISTANT PROFESSOR ASHLEY.

3. Introduction to Philosophy (3).—An elementary treatment of important problems of reflective thought. The Greek point of view regarding ethics, logic, art, mind, and education is reached through a study of Plato's *Republic*. Leading philosophic attitudes of modern thinkers are then considered. Mj. ASSISTANT PROFESSOR TALBERT.

4. Greek and Mediaeval Philosophy (4).—This course is designed (1) as a survey of the history of thought, considered in its relations to the sciences, to literature, and to social and political conditions, and (2) as an introduction to philosophy through a more careful study of some of the most important systems. Special attention will be given to the study of the more important dialogues of Plato and to Aristotle's *Ethics*. Mj. PROFESSOR TUFTS.

5. Modern Philosophy (5).—Descartes to Hume, with special study given to Descartes' *Meditations*, Locke's *Essay*, Berkeley's *Principles of Human Knowledge*, and a portion of Hume's *Treatise on Human Nature*. Mj. PROFESSOR TUFTS.

6. Introduction to Kant (22).—Watson's *Selections* and Mahaffy and Bernard's editions of *The Critique of Pure Reason* and *Prolegomena* will be made the basis of the work. The course will be opened with a brief study of the thought of Leibnitz, for which Dewey's *Leibnitz* will be used. This will be followed by a brief outline of Kant's early development and a detailed study of the more important portions of *The Critique* as found in Watson's *Selections*. Prerequisite: course 5 or its equivalent. Mj. PROFESSOR TUFTS.

7. Movements of Thought in the Nineteenth Century (6).—The course continues in less technical manner the history of modern philosophy: romanticism as represented by Rousseau and certain poets; idealism in German philosophy and in Carlyle; utilitarianism; positivism; transcendentalism as seen in Emerson's view of nature and man; the doctrine of evolution, particularly in its relation to human society and the problems of morality as considered by Huxley; the relation of the scientific to the philosophic point of view as defined by Royce. Those who register for the course should have access to a good library or be prepared to purchase a number of books. Prerequisite: two of the three courses, 4-6. Mj. PROFESSOR TUFTS.

8. Contemporary Philosophy (8).—Selected works of Bergson, James, and other writers representing the several schools of thought are studied in detail, the purpose being to illustrate types of philosophic thought. Some of the problems considered are: (1) the relation of philosophy to science; (2) the nature of freedom, space, and time; (3) the definition of truth; (4) the contrasting standpoints of absolutism and pragmatism. This course furnishes the student an

opportunity to read philosophers who are now exerting influence and to formulate by comparison and criticism a point of view of his own. Mj. ASSISTANT PROFESSOR TALBERT.

9. Evolution and Modern Thought.—To trace the important consequences of Darwin's theory and method is the object of this course. Starting with an outline of the elements of Darwin's hypothesis, attention is first directed to the history of the English development, followed by a consideration of the contributions of selected European and American writers. Ethics, politics, sociology, logic, aesthetics, and psychology are the fields in which the influences of the doctrine of evolution are considered. The conclusion of the study suggests the way in which the concept of evolution affects general philosophical attitudes as expressed by recent schools of philosophy. Since the course covers an extensive field, it is desirable for the student to select a special problem for more detailed study. To avoid the necessity of a large library, the lesson notes contain fuller discussions than is ordinarily the case. Mj. ASSISTANT PROFESSOR TALBERT.

10. Aesthetics (7).—This course deals with the following elementary aspects of beauty and of art forms: (1) psychological principles involved in the appreciation of beauty and its expression; (2) the character of primitive art; (3) the perception of form and the nature of rhythm; (4) description of the special arts—painting, sculpture, architecture, music, and the drama; (5) certain general relations of art to other types of experience. Prerequisite: "Elementary Psychology" or an equivalent course. Mj. ASSISTANT PROFESSOR TALBERT.

Hindu Philosophy.—(Cf. description under Comparative Philology 6.) Mj. ASSISTANT PROFESSOR CLARK.

PSYCHOLOGY

1. Elementary Psychology (1).—This course takes up the general study of mental processes. It aims to train the student to observe the processes of his own experience and those of others, and to appreciate critically whatever he may read along psychological lines. It is introductory to all work in philosophy and pedagogy and is an important part of equipment for historical and literary interpretation. Mj. ASSOCIATE PROFESSOR CARR.

2. Advanced Psychology (11).—This course presupposes such a familiarity with the subject-matter of psychology as may be gained from course 1 or from intimate acquaintance with Angell's *Psychology*, Ogden's *An Introduction to General Psychology*, Royce's *Outlines of Psychology*, Titchener's *An Outline and Primer of Psychology*, or Yerkes' *Introduction to Psychology*. It may then properly be described as a continuation of the study or an *advance* upon an elementary presentation of the science with a view to further grounding in methods and a reconsideration of some salient problems in the light of recent specialized studies. Mj. DR. MACMILLAN.

3. Psychology of Thinking (introductory course).—The purpose of this course will be to investigate the character and function of thinking. Thinking will not be regarded in accordance with popular usage as a common term for all sorts of imagery but will be treated as a reflective process, which arises because of difficulties in our experience and has its object and justification in their solution. The psychology of thinking will include, therefore, (1) a preliminary study of conduct or behavior, with a view to determining the conditions which give rise to problems and reflective processes, and (2) a more detailed account of the way in which thinking proceeds in our attempt to solve these problems. In connection with the general investigation various applications to education, science, and practical affairs will be pointed out—partly for the purpose of illustration and partly for the value which the student who is interested in these fields will derive from the point of view which the course will tend to develop. No special preparation is required as a prerequisite, but any work which the student may have had in biology or psychology should be of considerable assistance. Mj. ASSISTANT PROFESSOR ASHLEY.

4. Social Psychology (4).—A study of (1) groups and institutions and the forms of consciousness developed within them; (2) the social aspects of instinct, feeling, and cognition; (3) custom, public opinion, imitation, and suggestion; (4) theories of leadership. Constant practical applications to education and politics are made. Mj. ASSISTANT PROFESSOR TALBERT.

5. Social Groups.—An advanced course in social psychology for students who desire to investigate special problems. The psychological processes underlying political parties, sects, corporations and other business structures, labor organizations, secret societies, etc., are examples of questions needing detailed study. Prerequisite: "Social Psychology" or an equivalent course. Mj. ASSISTANT PROFESSOR TALBERT.

6. Psychology of Religion (5).—Emphasis is laid on the origins of religion in primitive society, the function of religion from psychological and sociological points of view, and its relation to science and democracy. Part I treats the salient aspects of primitive religion—as custom, taboo, magic, ceremonial, myth, spirits, sacrifice, and prayer. Part II discusses the evolution of religion in the individual from childhood to maturity; the psychology of conversion and religious education are important topics. In Part III the wider aspects of religion are studied: the value and limitations of sects, the nature of religious genius, non-religious persons and the difference between the religious attitude of primitive man and the attitude of the modern individual. Throughout the course the purpose is to consider religion as a normal phenomenon related to human values and institutions and having an identical function from past to present, notwithstanding vast changes in its forms and doctrines. Mj. ASSISTANT PROFESSORS AMES AND TALBERT.

EDUCATION AND METHODS IN DIFFERENT SUBJECTS

(For courses see pp. 60-72)

POLITICAL ECONOMY

1. Principles of Political Economy.¹—

A. This course endeavors to point out to the student the main characteristics of our present industrial system. This is done by an examination of its development and by an analysis of its features. A careful study is made of the economic laws governing the production, consumption, and exchange of wealth. Mj.

B. In this course the problems of distribution and several of the concrete problems of the day are discussed. Among the subjects treated are the following: rent; wages; interest; profits; money; banking; international trade; the tariff; trade-unionism; socialism; taxation and public finance. Prerequisite: course 1A. Mj.

PROFESSOR MARSHALL AND ASSISTANT.

2. Principles of Economics I: Industrial Society (0).²—This course presents a general survey of industrial society, its structure, its institutions, its operations. As a basis for comparative study, the first part of the course examines briefly the structures of mediaeval industrial society and the evolution of modern capitalistic industry. The second part of the work deals with certain outstanding features of the present industrial society, such as private exchange co-operation; the pecuniary organization of society and the financial institutions resulting therefrom; specialization and interdependence; the significance of technology, using machine industry as an illustrative case; speculative industry, risk and risk bearing; the position of the worker under a wage system in capitalistic machine industry; concentration in the sense of large-scale production; concentration of the ownership of wealth and income; concentration of control of industry; impersonal relations; the guidance of economic activity. The third part of the

¹ The two Majors of this course will be superseded on October 1, 1917, by courses 2 and 3.

² Registrations will be accepted after October 1, 1917.

course is concerned with some underlying assumptions of our present régime, such as private property, competition, and the social control of industrial activity. The course is designed to serve as an introduction to the later work in economics, which is so arranged as to constitute progressively more intensive studies in the field here rapidly surveyed. In connection with course 3 it serves as a general introduction to the courses in business. Mj. PROFESSOR MARSHALL AND ASSISTANT.

3. Principles of Economics II: Value and Distribution in Industrial Society (1).¹—This course is really a continuation of course 2, being designed to work out the principles of value, including those determining rent, wages, interest, and profits, in our pecuniarily organized society. It is prerequisite to all later work in economics and is open to students who have taken satisfactorily, either in high school or in college, course 2. Mj. PROFESSOR MARSHALL AND ASSISTANT.

Economic History of the United States.—(Cf. description under History 20.) Mj. DR. FOX.

ACCOUNTING

4. Bookkeeping.—This course gives a full treatment of the underlying principles of bookkeeping. Its purpose is to acquaint the student with the theory and nature of accounts. The subjects treated will be: (1) forms of accounts, (2) books used in accounting, (3) mode of handling commercial papers, (4) the recording of transactions, and (5) double-entry methods in retail business. In the first half of the course a retail proprietary business is conducted and properly closed. Following this a partnership is opened, introducing a new line of trade and distributing profits proportionately among partners. All principles presented are practically illustrated by a series of transactions that the student will be required to enter in a set of forms which accompany the textbook required in the course. Prerequisite: a working knowledge of arithmetic. [This course commands admission credit only.] Mj. MR. KEEN.

5. Wholesale Partnership Accounting.—This course follows course 2 and is designed for students who have completed that course or who are familiar with the principles of bookkeeping therein enunciated. The articles of co-partnership are introduced and explained: the net profits or losses are carried to the partners' accounts and the books formally closed. New accounts pertaining to a wholesale trade are taken up, in addition to those previously studied. Special attention is given to the method of handling invoices and sales by the loose-leaf system. Also the sales ledger, the bills-receivable and the bills-payable books, are introduced. A system of keeping departmental costs will be fully carried out, showing a comparison of the costs and sales in the several departments in the business. As in course 4, the student will be required to do the practical work in recording transactions and handling the commercial papers pertaining thereto. Mj. MR. KEEN.

6. Corporation Accounting.—This course provides a tabulated study of the laws of all the states with reference to the formation and conduct of corporations. Then follows: the opening of a set of corporate books under various conditions; the conversion of a partnership into a corporation; the treatment of good will as a resource; the manner of issuing, transferring, and canceling stock; the keeping of all special account books used in corporate accounting; the making of balance sheets and the peculiar items composing them; the sources of income, the declaring of dividends, reserve fund, surplus, depreciation, and the closing of the books for a fiscal period. The student is required to record the operations of a manufacturing corporation for two financial periods, thus illustrating the foregoing principles, and also to conduct the payment of all obligations by the voucher system. Incidental to record sheets, and in connection with special references given, the discussion of problems related to corporate accounting is called for. Prerequisite: course 4 or its equivalent. Mj. MR. KEEN.

7. Cost Accounting.—This course is designed to give a detailed analysis of that type of accountancy which deals particularly with the various expenses

¹ Registrations will be accepted after October 1, 1917.

incident to preparing products for the market. All underlying principles are duly outlined, and their interrelation and application are illustrated. Both department method and cost method are analyzed, and their advantages are shown. A synthetic set of problems is used to introduce the working out of costs and to reflect the principles, theoretically discussed, as they are actually involved in the process of manufacturing. Following the introductory examples is given the actual work of a large factory during two months of its operation. All transactions, from organization to closing of accounts, are recorded in the most systematic and thorough manner. In conjunction with this laboratory work papers on office and shop investigation are called for. Prerequisite: course 6 or its equivalent. **Mj. MR. KEEN.**

8. Bank Accounting.—This special form of accountancy is treated in conformity with thoroughly modern practice in banks. The text used has been compiled recently by an eminent certified public accountant and embodies both practical experience and ample investigation. The development of the lessons is such as to enlist and hold the student's interest. The basis of banking is shown. Exercises in statements of credit are given. Illustrated exercises in opening the books of a bank are preliminary to three periods of specific bank transactions which must be posted. The books will then be closed and all statements made. Prerequisite: course 4 or its equivalent. **Mj. MR. KEEN.**

POLITICAL SCIENCE

1. Civil Government (1).—This course is devoted to an analysis of the organization and activities of the American government, local, state, and national. Some of the topics treated are: (1) the historical foundations of American institutions; (2) the evolution of federal and state constitutions; (3) the development of political parties and party machinery; (4) nominations and elections; (5) the organization, powers, and duties of the executive, legislative, and judicial departments of the federal, state, and local governments; (6) city government; (7) territorial government. Emphasis is placed upon the actual work governments perform. **Mj. DR. EVANS.**

2. Elements of Business Law.—This course deals with the following branches of private law: (1) contracts; (2) sales; (3) bills and notes; (4) agency; (5) partnership; (6) private corporations; (7) bailments; (8) guaranty and suretyship. These are the subjects most closely connected with the ordinary transactions of business. The general doctrines and underlying principles of these branches are discussed and analyzed and their application illustrated by actual cases. The purpose of this course is twofold: (1) to give to the man of business a knowledge of the general character and extent of his legal rights and duties; (2) to give to the general student an introduction to the study of the nature and doctrines of American private law so far as they are illustrated in the subjects treated. **Mj. ASSISTANT PROFESSOR HALL.**

3. Elements of International Law (62).—A study of the rules observed by civilized nations in their relations with each other. The course includes a general consideration of the history and development of international law and a more detailed study of the subject in its three fundamental divisions of peace, war, and neutrality. Some of the topics treated are the nature, sources, and divisions of international law; the intervention of one nation in the affairs of another; the rights and duties of nations in connection with property; the extent and nature of a nation's jurisdiction over its territory, subjects, and public and private vessels; the rights and duties of diplomacy; modes of warfare; recognition of belligerency; effect of war on treaties; rules of war on land and sea; rights and duties of neutral states; blockade; contraband of war, etc. The course is not strictly technical in character, and should prove of value to those desiring a better understanding of current international affairs, as well as to lawyers and teachers of history and political science. The work will be based on a standard text, supplemented by a book of cases on international law. **Mj. ASSISTANT PROFESSOR HALL.**

4. Constitutional Law in the United States.—A study of the principles of constitutional law as they have been developed in relation to the federal constitution and to some of the more important provisions of the state constitutions of the United States. The general topics discussed are: (1) the nature of American constitutional law; (2) making and changing of the American constitution; (3) separation of powers; (4) function of judiciary in enforcing constitutions; (5) political rights; (6) personal and religious liberty; (7) protection to persons accused of crime; (8) due process of law and equal protection of the law in regard to procedure, the police power, power of taxation, and the right of eminent domain; (9) laws impairing the obligations of contracts; (10) powers of the federal government and their exercise; (11) regulation of commerce; (12) inter-governmental relations; and (13) jurisdiction of the federal courts. This course is based upon the study of actual cases, which, wherever practicable, have been so selected and arranged as to show not only the law as expounded by the courts today but also its historical development. This is supplemented with the text, which gives an exposition of the general rules derived inductively from a study of the cases. As far as possible technical terms are avoided, so that the course will be of equal value to the general student, the political scientist, and the lawyer. Mj. ASSISTANT PROFESSOR HALL.

NOTE.—Related courses are offered in Political Economy, History, and Sociology.

HISTORY

ACADEMY

The outline courses 1-4 are designed to meet college-entrance requirements in ancient, European, English, and American history, respectively. For A and B together, of each course, one unit of admission credit is allowed. The suggestions for study are made very definite as helps to beginning students and as an outline for high-school teachers.

1. Outline History of Antiquity to 376 A.D.—

A. *Oriental and Greek History to 146 B.C.*—A general narrative and descriptive history of Greece to the Roman conquest, with a brief introductory sketch of the oriental nations that especially influenced Greek civilization. Mj.

B. *Roman History to 376 A.D.*—A general view of Roman history from the early Republic to the establishment of the later Empire in the fourth century, paying special attention to the government and institutions of the latter as a basis for an intelligent study of the mediaeval period. Mj.

ASSISTANT PROFESSOR KNOX.

2. Outline History of Europe (376-1900).—

A. *The Decline of the Roman Empire to the Renaissance (376-1500).*—This course includes a study of the essentials in mediaeval European history from the fall of the Western Roman Empire to the Reformation. Mj.

B. *The Reformation to the Present (1500-1900).*—The course aims to give the student a general understanding of the principal territorial changes, national policies, economic conditions, and intellectual interests of Europe during the last 400 years. Mj.

ASSISTANT PROFESSOR KNOX.

3. Outline History of England.—

A. *English History to 1603.*—An introductory study of the origin and formation of the English nation to the death of Elizabeth. Besides tracing the outlines of political and constitutional development, the course deals briefly with social and institutional history and with the growth of civilization and culture. Mj.

B. *English History from 1604 to the Present.*—Politically and constitutionally the course treats of the rise of Parliament in the seventeenth century, the growth of cabinet government in the eighteenth century, and the growth of

popular control over Parliament in the nineteenth century. The colonial expansion of England, the growth of the British Empire, and the main facts and results of the industrial revolution are studied. Mj.

DR. FOX.

4. Outline History of the United States.—

A. *American History to the Formation of the Constitution (1492-1788).*—The course traces the history of the English colonies on the Atlantic coast from the planting to their union under a written constitution. Political and social institutions in the colonies and such economic conditions as affected their development are studied with some care. European rivalries and colonial wars are made subordinate to their results. Other main topics are: the relations of the colonies to the mother-country and to each other; their defense of "the rights of Englishmen" in the face of British colonial policy after 1760; the Revolution and independence; the difficulties of forming a permanent political union; the Articles of Confederation and their failure; the Constitution. Mj.

B. *The Nation under the Constitution (1789-1914).*—Up to the Civil War the course treats of: the organization of the new government; foreign and domestic problems; the services of the Federalists and their overthrow; Jeffersonian policies; the War of 1812 and results; political and economic reorganization; westward extension and the rise of national democracy under Jackson; the Monroe Doctrine and territorial expansion; the slavery controversy and the triumph of nationalism over sectionalism in 1865. Following the Civil War the chief topics are: political and economic readjustments to 1877; industrial development; economic problems and legislative regulation; civil service and political reform; the growth of socialistic legislation; the Spanish War and "imperialism"; the Wilson policies. Mj.

DR. FOX.

COLLEGE

5. *History of Antiquity to the Fall of the Persian Empire (A4).*—In this course the history of the nations of the ancient East—Babylonia, Egypt, Assyria, Syria, Israel, etc.—is studied in its development from the beginnings of organized political life to the fall of the world-empire of Persia. A large amount of reading is expected of students. Mj. ASSISTANT PROFESSOR KNOX.

6. *History of Greece to the Death of Alexander (A12).*—This course presupposes a general knowledge of the external facts of Greek history (course 1A) and undertakes to conduct the student into an investigation of the underlying principles and forces which condition the outward events. It is intended for those who wish to go thoroughly into the subject and are willing to give their time and thought to it. Mj. ASSISTANT PROFESSOR KNOX.

7. *History of Rome to the Antonines (A13).*—A general view of the development of Rome to the close of the first century A.D., with special emphasis on imperial expansion and provincial government. Mj. ASSISTANT PROFESSOR KNOX.

8. *European History: The Mediaeval Period (376-1300) (1).*—The invasion and settlement of the barbarians, the revival of the empire, the growth of the papacy, the struggle between these two, Mohammed and his religion, the Crusades, the rise of nationalities and mediaeval institutions will be studied. The needs of the teacher as well as those of the general student are met in this course. Mj. ASSISTANT PROFESSOR KNOX.

9. *European History: The Later Mediaeval and Early Modern Period (1300-1715) (2).*—The course opens with a study of Europe during the period of the Renaissance and extends to the reconstruction of Europe at Utrecht. Besides the Renaissance, the chief topics studied are: the Reformation and its results; the growth of national states; the "wars of religion" to 1648; the ascendancy of France; the English constitutional struggle of the seventeenth century, and the colonial expansion of Europe following the period of exploration and discovery. Mj. DR. FOX.

10. European History: The Later Modern Period (1715-1910) (3).—In the eighteenth century the principal topics studied are: the rise of Prussia and Russia; the colonial supremacy of England; the ancient régime in Europe; the era of the French Revolution and Napoleon. Following this the course will treat: the political reconstruction of Europe in 1815, political and constitutional reform, the unification of Italy and the formation of the German Empire, the Balkan problem, the industrial revolution, European imperialism, and the growth of democracy and socialism. Stress will be laid on the economic factors of modern history. The course furnishes an introduction to the study of current history. Mj. Dr. Fox.

11. Europe during the Renaissance (1250-1500) (B6).—A survey study of the period of the Renaissance in Europe. In addition to a general understanding of important events, emphasis is laid upon exploration and discovery; the growth of nationality; the expansion of the Ottoman Empire; commercial and industrial conditions, and the prominent intellectual and religious movements. Prerequisite: course 8 or its equivalent. Mj. Dr. Fox.

12. Europe during the Reformation (1517-1648) (C4).—This course is a study of the causes, events, and results of the Reformation in Europe. Much attention will be given to the political, social, and economic phases of the movement, the inseparable religious questions being discussed only so far as is necessary to an understanding of the period. Prerequisite: course 9 or its equivalent. Mj. Dr. Fox.

13. The French Revolution and the Era of Napoleon (C6).—The ground will be cleared for the history of the period by a careful study of the institutions of the Old Régime, in which the remoter causes of the Revolution will be discovered. A consideration of the more immediate causes and the attempts at reform will introduce the Estates General. The Revolution ran through three periods which answer to the National Assembly, the Legislative Assembly, and the Convention, to the extreme of a red democracy. Three more periods, corresponding to the Directory, the Consulate, and the Empire, see France return to a military absolutism under Napoleon. The greatest emphasis will be laid upon the institutional changes induced by the French Revolution, and attempt will be made to show the constructive work of the Revolution and of Napoleon. Its importance as one of the greatest generic events of the world's history will give the course a significance wider than France alone. It is desirable that the student be familiar with the outlines of modern European history. Prerequisite: course 9 or its equivalent. Mj. PROFESSOR THOMPSON AND DR. FOX.

14. The Expansion of Europe in the Nineteenth Century (C10).¹—Considers not only the extension of political control of European nations and the movement of European population to all parts of the world, but also other aspects of the movement by which Europe has touched and modified every part of the globe: missions, trade, investment of capital, etc. European activities outside of Europe are emphasized. A brief review of the earlier stages of expansion is followed by more detailed study of (1) the development of British colonial policy; (2) India since 1763; (3) Australia; (4) Canada; (5) South Africa; (6) problems of imperial organization; (7) Russian expansion in Siberia and Central Asia; (8) the opening of China to Western influence; (9) the awakening of Japan; (10) Europe in the Far East; (11) the Boxer Rebellion; (12) Russo-Japanese war; (13) Chinese Republic; (14) the new French Colonial Empire; (15) Italy and Germany as colonizing powers; (16) the passing of the Mohammedan powers—Turkey, Egypt, Persia, Morocco; (17) connection of these movements with European rivalries; (18) German naval program; (19) formation of the Triple Entente; (20) expansion as a factor in leading to the war. The advantage of a great deal of scattered reading makes access to a fair library desirable. Prerequisite: course 10. Mj. Dr. Scott.

15. History of England to the Accession of the Tudors.—Early Britain, its Romanization, the settlements of the invading German tribes, the struggle for

¹ Registrations will be accepted after October 1, 1917.

supremacy, the union of England under Wessex, the Norman Conquest, the struggle of the people for constitutional rights, civil and foreign wars, and the beginning of the Renaissance in England will be studied. Mj. Dr. Fox.

16. England from Henry VII to Edward VII (1485-1910).—While a general view of political policy, foreign and domestic, is the chief aim of the course, special attention is given to such important topics as the growth of Parliament, of democracy and imperialism, and considerable stress is laid on religious, economic, and social movements. Mj. Dr. Fox.

NOTE.—The following courses presuppose course 4 (A and B) and afford opportunity to study American history more exhaustively. The student is advised to take the courses in sequence. In this way he will greatly economize the expenditure for books, since successive courses require the same textbooks to a large extent. Graduate credit may be obtained in courses 17 and 18 by properly prepared students who have access to sources and original documents and who do additional advanced work under the direction of the instructor. In such cases the tuition fee for each Minor will be \$16.00 instead of \$8.00.

17. Colonial Period (1607-1783) (E4).—

A. *Colonization and Colonial Institutions (1607-1763).*—This course deals briefly with the period of discovery but more in detail with the origin and development of political, social, and economic institutions. The chief events of colonial history are considered with especial reference to the relations between the English colonies and the mother-country and the economic and political causes leading up to the Revolution. The course concludes with a survey of the struggle for the control of North America by the French and English and the peace of 1763. M.

B. *The American Revolution (1763-1783).*—The following topics show, substantially, the content of the course: the territorial, political, and economic condition of the English colonies in 1763; the new policy of the English government; the development of colonial opposition; the constitutional and philosophical arguments on both sides; the beginning of hostilities; the Declaration of Independence; the progress of the war; Congress as a governing body; the Loyalists; French and Spanish intervention; Washington's triumph; the preliminaries and terms of peace of 1783. M.

ASSOCIATE PROFESSOR JERNEGAN.

18. The Formation and Growth of the Nation (1783-1829) (E5).—

A. *Confederation and the Constitution (1783-1789).*—The following topics are treated: the results of the Revolutionary War; the government under the Articles of Confederation; the organization of the western territory; interstate controversies; problems of diplomacy and foreign trade; violations of the treaty of peace; paper money; the Shays Rebellion; the Constitutional Convention; analysis of the Constitution; the process of ratification. M.

B. *Foreign Politics and National Expansion (1789-1829).*—Beginning with the organization of the national government, the course deals with the policy of the Federalist party in foreign and domestic politics and the rise of the Democratic opposition. The broad and strict constructions of the Constitution are carefully studied. Further topics are the fall of the Federalists; Jefferson's policy; annexation of Louisiana; experiments in neutrality, and the causes, progress, and results of the War of 1812. The course concludes with a survey of the political and economic reorganization after the war, including western expansion, the Missouri Compromise, the Monroe Doctrine, and the triumph of the Jacksonian democracy. M.

ASSOCIATE PROFESSOR JERNEGAN.

19. Sectional Conflict and National Development (1829-1914) (E6).—

A. *Democracy, Expansion, and Conflict (1829-1865).*—The course is intended for maturer students who wish to learn "why things happened as they did as well as how they happened." Thus attention is given to the causes of the democratic revolution under Jackson and the growth of political machinery and the "spoils system" by which party government was made effective; the economic and

political growth of the lower South, the development of the industrial North, and their rivalry for the political alliance of the growing West. The fundamental cause of sectionalism is found in economic divergence; its growth is traced in the sectional treatment of practically all national questions before 1860—the tariff and nullification, banks, the subtreasury system, land policy, internal improvements, the admission of new states, and territorial expansion. Careful study is made of: slavery as a system and its economic, social, and political effects; abolition and anti-slavery; aggressive expansion under southern leadership; the vain efforts of the South to extend its system to new territory and its consequent loss of political power; the sectionalization of the older political parties after 1850; the rise of the new Republican party and its triumph in 1860; secession and the triumph of nationalism. The great statesmen and other leaders of the period receive due attention. Other topics are: the growth of industry, agriculture, and commerce under the spur of mechanical invention and improved transportation; urban development; social changes; immigration; religious and cultural history. M.

B. *National Consolidation and Expansion (1865-1914).*—The course treats of the problems of reconstruction, the blundering policy pursued by Congress, and the recovery of the South; the conflict between Congress and the executive, legislative scandals and executive demoralization, and political, constitutional, and economic readjustments made necessary by the war; the rapid growth of the North, the settlement of the West under the influence of transcontinental railways and liberal land laws, and the economic rise of the New South. The cardinal facts of the period are found to be the economic development of a free, united people under a policy of *laissez faire*, the rise of enormous corporations and trusts in industry and transportation and their efforts to control government in the interests of "big business," the effects of such material changes upon the structure of society, and the efforts of popular government to control this portentous economic development by law. In this light tariff reform, coinage of silver, currency and banking, conservation, railway-rate regulation, government supervision of corporations, the labor movement, and labor and socialistic legislation are studied. On the political side third-party movements, civil-service and ballot reform, the extension of federal powers and activities, and the development of such democratic weapons as direct primaries, direct election of senators, direct legislation, and the recall are considered. Attention is given to commercial expansion, "imperialism," foreign relations and the emergence of the United States as a world-power, Latin American relations, and the Panama Canal. The first two years of the Wilson administration are included in the study. M.

Dr. Fox.

20. **Economic History of the United States.**—A general survey of the subject aiming to acquaint the student with the economic problems and forces as they developed and shaped the course of American history—a phase frequently neglected, but of fundamental importance for a proper understanding of the history of the American people. Among the main topics treated are: (1) colonial agriculture, industry, and commerce; (2) economic aspects of the Revolution; (3) the opening up and settlement of the West; (4) the public lands; (5) internal improvements; (6) railways and waterways; (7) slavery; (8) immigration; (9) the merchant marine; (10) foreign commerce; (11) the development of agriculture; (12) the rise of manufactures; (13) the growth of trusts and trade unions. Pre-requisite: course 1A or course 2 in Political Economy and 4 (A and B) in History, or their equivalent. Mj. Dr. Fox.

21. **A Method of Teaching Historical Geography.**—This course is designed especially for high-school teachers of history and involves the use of the ordinary texts in the subject, an atlas showing the physical features, and a historical atlas. It aims: (1) to make the student expert in constructing quickly sketch maps of Europe as a whole and of various portions of the continent; (2) to show him how such maps are an aid in visualizing and appreciating the relations of physical features and in understanding the course of political and social history; (3) to

teach him the value of these maps to illustrate the important phases of the territorial expansion of various nations in ancient, mediaeval, and modern times; and (4) how to use the sketch map in the classroom. Mj. ASSISTANT PROFESSOR WALKER.

For other courses for teachers of History see p. 65.

History of India.—(Cf. description under Comparative Philosophy 4.)

THE HISTORY OF ART

1. Introduction to the History of Painting (36).—The object of this course is twofold: to increase understanding and enjoyment of paintings as works of art and to furnish an outline of the development of painting as a foundation for more detailed study. The course includes: (1) an exposition of general principles of aesthetic excellence in pictorial art and analysis of selected paintings of various periods and schools in accordance with these principles; (2) a survey of the evolution of art forms in European painting to the present time. Attention will be concentrated upon representative masterpieces, the history of intervening periods being traced briefly. The analyses are planned to stimulate the student's response to the aesthetic content of paintings so that in the historical work he will not overlook this element. Instruction is based upon reproductions of paintings, with readings and supplementary material furnished in the lesson sheets. Prerequisite: a year of college work or the equivalent. Mj. MISS DRISCOLL.

2. Flemish Painting (46).—A course on the development of Flemish painting from the mediaeval miniaturists to Rubens and Van Dyck. The method will be analytical as well as historical. Instruction is based on reproductions of paintings with supplementary readings. Prerequisite: a year of college work or the equivalent. Mj. MISS DRISCOLL.

3. Dutch Painting (47).—Emphasis will be laid on the work of the masters of the seventeenth century and the special forms of portrait, genre, and landscape painting as developed by the Dutch in that period. Instruction is based on reproductions of paintings with supplementary readings. Courses 2 and 3 are planned to give a comprehensive outline of the painting of the Netherlands. The course on Flemish painting, while not prerequisite, will add materially to the student's understanding of the special achievements of Dutch painting and its relation to the Flemish school. Prerequisite: a year of college work or the equivalent. Mj. MISS DRISCOLL.

NOTE.—Related courses are offered in Philosophy, History, Aesthetic and Industrial Education, and Drawing.

SOCIOLOGY AND ANTHROPOLOGY

COLLEGE

1. Introduction to Sociology.—A study of the phenomena of social life; the basis of society in nature; the social person; social institutions, and social psychology, order, and progress. The course is designed to give an introduction to theoretical and practical sociology and to systematize the reading, observation, and thinking of advanced students. Mj. ASSISTANT PROFESSOR MACLEAN.

2. Introduction to the Study of Society (1).—This course is designed to afford a synthetic view of social phenomena, and to furnish the student with a scientific method for the study and correct understanding of ordinary human association. Considerable attention will be paid to local studies as a means of amplifying the text. The aim is to have the course serve as an introduction to the special social sciences. Mj. ASSISTANT PROFESSOR MACLEAN.

3. Elements of Industrial History.—The aim of this course is to acquaint the student with the salient facts of American industrial history and to furnish a foundation for those who wish to do further work in economics or sociology.

Selected industries will be studied in detail and their evolution discussed. A course for practical people as well as for students. Mj. ASSISTANT PROFESSOR MACLEAN.

4. Social Debtor Classes.—A course for practical social workers and supporters of social amelioration. The particular work in which the student is interested is taken as a starting-point and an attempt is made to discuss various forms of preventive and constructive social work from the standpoint of the relief visitor, city missionary, alienist, contributor, or lay student, as the case may be. Texts are chosen with a view to the reader's special needs, and illustrations are taken from his own state or community. The chief aim of the course is to give occasion for the reader to analyze, classify, and describe his own environment and his own experience and observation. Prerequisite: course 1 or its equivalent. Mj. ASSISTANT PROFESSOR MACLEAN.

5. Modern Immigration.—This course includes a study of the forces at work in movements of population from the old world to the new; history and statistical studies of immigration into the United States; nationalities involved; their distribution and industrial adjustment; problems presented; social efforts looking toward better assimilation; the status of the immigrant. A course for students, social workers, and all who are interested in this important social problem. Mj. ASSISTANT PROFESSOR MACLEAN.

6. Rural Life.—The aim of this course is to study rural social life in America, with its problem of isolation, and organized efforts for improvement. The course is designed to meet the needs of Young Men's and Young Women's Christian Association secretaries, country ministers, teachers, social workers, and others who are dealing with the problems of rural communities. The country will be studied in its physical, economic, and psychological aspects with a view to a thorough understanding of rural life, a discovery of needs and existing efforts to meet these, and suggestions for further improvement. Mj. ASSISTANT PROFESSOR MACLEAN.

7. Problems of Industry.—A course designed for the discussion of some of the vital questions in American industrial life, including: (1) the labor of women and children; (2) methods of settling disputes; (3) insurance against accident; (4) the improvement of physical conditions in factories; (5) efforts to render workers more efficient. The work will be conducted by means of textbooks, reports, and special studies. Prerequisite: course 1 or its equivalent. Mj. ASSISTANT PROFESSOR MACLEAN.

8. The Playground Movement (63).—A course primarily for playground supervisors and recreation and community-center directors, but useful also to social workers, educators, ministers, Y.M.C.A. leaders, and others who desire to know about the scope and the objectives of the current play and recreation movement. The course includes consideration of the following: (1) sources and evolution of play in the race—its age periods, sex differences, social, national, and racial traits, its rhythmic and seasonal characteristics, transmission of its traditions; (2) forms of play in different centuries, with special attention to material that may be helpful in the observance of seasonal or religious festivals and the production of historical pageants; (3) the occasion for public provision for play; (4) the program, agencies, equipment, and organization of public play and recreation; (5) history, statistics, legislation, propaganda of the current play and recreation movement, and the use of play in institutions of various types. Instruction is based upon problems for the solution of which the essential material is furnished, but collateral reading is indicated and required. Desirable pre-requisites are two or more years of college or equivalent training, including introductory courses in psychology, education, and sociology. Mj. MR. RAINWATER.

9. The Direction of Playground Activities (64).—Designed for the training of playground and recreation directors in the theory and method of conducting and correlating the practical play and recreational activities of all ages of people. In the first part of the course the physical, social, civic, aesthetic, industrial, and nature interests will be studied in their application to sex, age, time, place, and

end or aim. Here are taken up marching, calisthenics, gymnastics, dancing, plays and games, athletics, badge tests, leagues and tournaments, exhibitions and field days, excursions, hikes and camps, stories, dramatics, festivals, pageants, music, modeling, wood craft, toy-making, paper folding and cutting, raffia and reed craft, hammock-making, nature-study and gardening, the organization of clubs, the conduct of social and game rooms, the organization of community councils and centers and civic classes, public meetings and forums. In the second part programs for the day, the week, and the year, on both indoor and outdoor children's playgrounds, men's and women's gymnasiums and field houses, and school social centers are formulated. The method of instruction is similar to that in the preceding course. Prerequisite: Course 8. Mj. MR. RAINWATER.

10. General Anthropology (80).—An introductory course treating of the origin, antiquity, distribution, and early occupations of man and of the sources of language, religion, the arts, and social relations. The student must consult the instructor before registering. Mj. ASSOCIATE PROFESSOR STARR.

11. Japan (101).—A general view of Japan, past and present, is sought. Especial attention is given to industrial art and religion. The student must consult the instructor before registering. Mj. ASSOCIATE PROFESSOR STARR.

GRADUATE

12. Principles of Collective Behavior.—An introduction to the study of society and social problems. This course is designed to make the student familiar with the concepts which investigators of social life in various fields have found useful in analyzing and describing the fundamental processes of community life. The point of view represented by the course is that human nature as distinguished from original nature is the product of human association. The general concepts discussed are (1) isolation and social contact; (2) imitation and suggestion; (3) communication and interaction; (4) social forces; (5) competition; (6) conflict; (7) accommodation; (8) assimilation; (9) collective or corporate action; (10) social control; and (11) social progress. Mj. ASSISTANT PROFESSOR BURGESS.

13. The Family (5).—The purpose of the course is to investigate the problems of the modern family from the standpoint of the personal development of its members and of the "mores" of the community. The following topics will be considered: (1) the natural family; (2) the institutional family; (3) the home; (4) disorganization and disintegration; (5) the future of the family. As far as practicable the instruction will be based upon case-studies made by the individual student and upon an analysis of current ideals of family life as reflected in modern literature. Prerequisite: course 12. Mj. ASSISTANT PROFESSOR BURGESS.

14. The Negro in America (43).—The course is intended as an introduction to methods of investigation in the field of racial psychology. It will seek to define the problems and outline a method and a point of view for investigating them. Attention will be directed especially to effects, in slavery and in freedom, of (1) the contacts of the white and the black races; (2) the ensuing processes of amalgamation, assimilation, and racial competition; (3) the rôle of the mulatto; (4) the social and political effects of isolation and prejudice; (5) the growth of race consciousness in the Negro; and (6) the evolution of a biracial system of social control. The books required for reference in this course can be borrowed by students to whom they are not otherwise accessible upon the payment of the cost of transportation. Prerequisite: course 12. Mj. PROFESSOR PARK.

15. The Social Survey (36).—An application of current methods of social investigation to local community problems. The student is expected (1) to make an inventory of the outstanding problems of his local community, i.e., neighborhood, town, or rural community; (2) to investigate the interrelations of the problems noted; (3) to assess the relative actuality of each problem or group of problems, i.e., estimate the urgency as well as the feasibility of an investigation of each case; (4) to prepare a plan of the community, (a) outlining the economic

organization, (b) locating social institutions and the natural groups, i.e., the racial, occupational, recreational, religious and residential groups. Prerequisite: course 12. Mj. PROFESSOR PARK.

16. Field Studies (43b).—This course is designed to provide direction and suggestion either (1) for special research or (2) for a community survey. Credit for the course depends upon the submission and acceptance of a satisfactory report upon an investigation made under the direction of the instructor. The approval of the instructor of the plan of the community survey is contingent upon the success of the student in organizing a local group to participate in the study of community problems. Arrangements may be made for expert assistance in the investigation of special problems if required. Prerequisite: course 15. Mj. PROFESSOR PARK AND ASSISTANT PROFESSOR BURGESS.

HOUSEHOLD ADMINISTRATION

1. House Sanitation (42).—This course offers a comprehensive and practical study, based on scientific principles, of the sanitary aspects of the home. Recent changes in sanitary theory and practice are especially emphasized. Among the topics treated are the choice of building site, construction and care of cellar, drainage, plumbing, heating, lighting, ventilation, furnishing, and cleaning. Mj. PROFESSOR TALBOT.

2. Foods and Dietaries (43).—A course in practical dietetics covering the study of the composition of foods, scientific principles of preparation, and their combination in dietaries from an economic and physiological standpoint. Prerequisite: high-school chemistry and physics. Mj. PROFESSOR TALBOT.

3. Administration of the House (44).—This course will consider the order and administration of the house with a view to the proper appointment of the income and the maintenance of suitable standards. Changes in household activities and organization as affected by modern economic and social conditions will be studied. Mj. PROFESSOR TALBOT.

ORIENTAL LANGUAGES AND LITERATURES

(For courses see pp. 73 ff.)

NEW TESTAMENT AND EARLY CHRISTIAN LITERATURE

(For courses see pp. 75 f.)

COMPARATIVE PHILOLOGY, GENERAL LINGUISTICS, AND INDO-IRANIAN PHILOLOGY

1. Elementary Sanskrit (10).—The aim of the course is to give the student a thorough grounding in the essentials of Sanskrit grammar, the principles of which are illustrated by constant translation from Sanskrit into English and from English into Sanskrit. It is designed as an introduction to the selections from classical Sanskrit in Lanman's *Reader*, which the student should then be prepared to read rapidly by himself. No attempt is made to teach comparative philology in this course. Mj. ASSISTANT PROFESSOR CLARK.

2. The Bhagavad Gītā.—The Sanskrit text of this most famous of all Hindu religious books will be read and some attention will be paid to the content and the development of the doctrines contained in it. Mj. ASSISTANT PROFESSOR CLARK.

3. History of Sanskrit Literature (13).—The aim of this course is to give a brief survey of the literature of India—a literature of no small intrinsic value and one which offers much that is of interest to the occidental student. An effort will be made to gain some intelligent appreciation of the social and intellectual conditions under which this literature was produced and to form some conception of its place in the literature and thought of the world. No knowledge of Sanskrit or Pali is necessary, but a large amount of reading in translations will be required. Mj. ASSISTANT PROFESSOR CLARK.

4. History of India (16).—This course will trace the political history of India and the parallel social development from the time of the Rig-Veda to the Battle of Plassey in 1757. The formation of the Mongol Empire in Central Asia will be traced in order to give a background for the treatment of the Mogul period in India. Mj. ASSISTANT PROFESSOR CLARK.

5. The Religions of India (14).—The aim of this course is to give a brief outline of the mythology and religion of the Vedas and an account of the three great Hindu religions—Brahmanism, Buddhism, and Hinduism. A knowledge of these is absolutely essential to the student of comparative religion. Mj. ASSISTANT PROFESSOR CLARK.

6. Hindu Philosophy (15).—The course will trace the growth of philosophic thought in India from the Rig-Veda through the Upanishads to the six great philosophical systems. Especial attention will be paid to the Vedanta, the Samkhya, and the Yoga systems. Mj. ASSISTANT PROFESSOR CLARK.

THE GREEK LANGUAGE AND LITERATURE

ACADEMY

1. Elementary Greek.—In two Majors is offered the equivalent of the first year of high-school work in Greek. The writing of Greek is required from the beginning.

A. White's *First Greek Book*, Lessons 1–60. These lessons include the commonest noun and adjective declensions, the Omega system of conjugation, some fundamentals of syntax, connected reading lessons epitomizing the story of the *Anabasis*, and a vocabulary of 600 common Greek words. Mj.

B. (1) White's *First Greek Book*, Lessons 61–80, including a study of the Mi system of conjugation, reading lessons, continuing the *Anabasis* story, and an additional vocabulary of 250 words; (2) the *Anabasis* of Xenophon, Book i, chaps. 1–3. These lessons call for constant review of the material studied in the *First Greek Book*. Mj.

ASSISTANT PROFESSOR BRONSON.

2. Xenophon: *Anabasis*.—

A. From Book i, chap. 4, through Book ii, chap. 4, about fifty pages. Exercises in writing Greek based upon the text. Mj.

B. From Book ii, chap. 5, through Book iv, about ninety pages. Greek composition, including a topical treatment of syntax. Occasional tests in translation at sight. Mj.

ASSISTANT PROFESSOR BRONSON.

3. Homer: *Iliad*.—

A. Books i–iii.—An introductory study of the *Iliad* in which the literary and linguistic aspects of the poem and the Greek life of the Homeric period are considered. Particular attention is paid to prosody and the peculiarities of epic dialect and syntax. Mj.

B. Books vi–xxii (*passim*).—The selections read in this course are chosen with a view to giving the student an idea of the plot of the *Iliad* as a whole. They include parts of Books vi, ix, xv, xvi, xix, and xxii. The grammar, dialect, and prosody are reviewed, and the text is made the basis of a general literary and elementary critical study of the *Iliad*. Mj.

MR. NELSON.

COLLEGE

Courses 4, 5, 6, and 7 are designed for students who begin Greek *after entering college*. They are coextensive with the corresponding residence courses, are conducted in the same manner, and are intended to prepare the student for the advanced required work. The first three Majors are equivalent to the first year's work in college.

4. Elementary Greek (1).—The purpose of this course is to give a mature person or one who has had four years of good high-school training sufficient drill

in the most common forms and principles of syntax of the Greek language. After a very few lessons the *Anabasis* is begun, and throughout the entire course attention is paid to the writing of simple sentences in Greek. Mj. MR. NELSON.

5. **Xenophon:** *Anabasis* (2).—The *Anabasis* is continued from the point reached at the end of course 1, and six more chapters from Book i, with selections from Books ii and iii, are read. A systematic study of syntax is begun, with frequent exercises in prose composition. Mj. MR. NELSON.

6. **Xenophon:** *Anabasis* (advanced) (3).—Books iv, v, vi, and selections from vii are read in this course, and the systematic study of syntax begun in course 2 is completed. The literary style of Xenophon and the historical content of the *Anabasis* are also subjects of study. Mj. MR. NELSON.

7. **Homer:** *Iliad* (4).—This is an introductory course to the study of Homer. The forms and syntax of the epic dialect are contrasted with those of the Attic dialect, and the essentials of prosody are presented. Selections from the *Iliad*, amounting to about 2,000 lines, are read. The course includes a literary study of this epic, with its pictures of life in the Homeric period. Mj. MR. NELSON.

8. **Plato:** *Apology* and *Crito* (5).—In connection with these writings short selections from Plato's *Symposium* and *Phaedo* and from Xenophon's *Memorabilia* will be read to furnish a basis for the study of the life and philosophy of Socrates as interpreted by Plato and Xenophon. The course includes a brief outline of Plato's life and works and a discussion of the syntax and idioms of Plato. Mj. MR. NELSON.

9. **Homer:** *Odyssey* (Books i, v-xii, and selections from Books ii and iv) (6).—This course aims chiefly at enabling the student to translate Homer fluently and with appreciation. It also includes a review of epic dialect and syntax and a study of Homeric life and antiquities. Mj. MR. NELSON.

10. **Introduction to Greek Tragedy** (7).—Sophocles' *Antigone* and Euripides' *Medea* are read. Attention is given to the various problems connected with these plays, to the character delineation, and the method of presentation. Collateral reading is assigned on the history of Greek tragedy and theater. Mj. MR. NELSON.

11. **Prose Composition** (16).—The course offers to teachers and others an opportunity to perfect themselves in Greek syntax, sentence structure, and the use of particles. The exercises are graded from simple narrative passages in the style of Xenophon to more difficult selections in the style of Plato and Demosthenes. Mj. PROFESSOR BONNER.

12. **Lysias:** *Selected Orations* and **Demosthenes:** *Philippics* (17).—A general introduction to Attic oratory. The literary characteristics of the authors studied and the public life and the history of their times are considered. Students should consult the instructor before registering. (Informal.) Mj. MR. NELSON.

13. **Demosthenes:** *De Corona* (23).—This oration, admitted to be the greatest one of ancient times, will be studied chiefly from the literary point of view. Students should consult the instructor before registering. (Informal.) Mj. MR. NELSON.

14. **Herodotus:** *Historiae* (Books vii-viii) (39).—The reading covers the invasion of Xerxes, including the battle of Salamis. The history of this period and the language and style of the author are studied. Mj. MR. NELSON.

15. **Aristophanes** (26).—An introduction to the study of Greek comedy; intensive study of two plays, probably the *Clouds* and *Birds*; the language and technique of Aristophanes; the external environment and inner spirit of Athenian comedy. Students should consult the instructor before registering. (Informal.) Mj. MR. NELSON.

Members of the Greek Department will endeavor to arrange informal courses for students who are prepared to do work of an advanced nature whenever practicable. Professor Shorey will occasionally guide by correspondence the work of advanced students who propose to attend the University.

NOTE.—Related courses are offered in Philosophy and General Literature.

THE LATIN LANGUAGE AND LITERATURE

ACADEMY

1. Elementary Latin.—In two Majors is offered the equivalent of the first year of high-school work in Latin. Starting with the rudiments, the aim is to acquaint the student with all the regular forms and common constructions found in Caesar's *De Bello Gallico* and to give him a large vocabulary.

A. Includes all the declensions of nouns and adjectives, all the conjugations of regular verbs, and the simplest rules of syntax. Mj.

B. Provides: (1) a review of verb forms, the conjugation of the irregular verbs, and the more difficult constructions in syntax, and (2) the study of Caesar: *De Bello Gallico*, Book i, chaps. 1-30, covering the Helvetian War. Mj.

MISS PELLETT.

2. Caesar: *De Bello Gallico*.—

A. Book ii.—This course is intended for students who have completed course 1, but who have had no other practice in translation. Special attention is given to a review of forms and syntax. Exercises in prose composition based upon the text form a part of each lesson. Mj.

B. Books iii-iv.—Continues the above. The more difficult Caesarian constructions are carefully studied, and further practice is given in prose composition. Mj.

C. Book i.—The latter part of Book i, the war with Ariovistus, is read. While forms, syntax, and prose composition continue to be studied, indirect discourse receives special attention. M.

MISS PELLETT.

3. Cicero: *Orationes*.—

A. *In Catilinam*, i-iv (1A).—This course includes translation, a review of forms and of more difficult constructions, exercises in Latin composition based upon the portion of text assigned in each lesson, and the history of the period. Mj.

B. *Pro Lege Manilia* and *Pro Archia* (1B).—Continues A and includes a careful study of the literary style of Cicero, of all historical references, and exercises in prose composition based upon the portion of text assigned in each lesson. Especial attention is given to translating into good English. Mj.

MISS PELLETT.

4. Vergil: *Aeneid*.—

A. Books i-ii (2A).—The work includes a study of prosody, word derivation, constructions peculiar to the poets, and the more common rhetorical figures. Mj.

B. Books iii-vi (2B).—Continues A and lays emphasis upon elegance of translation, the mythology, and the literary style of Vergil. Mj.

MISS PELLETT.

5. Prose Composition Based on Caesar.¹—This course affords: (1) practice in writing Latin in connected passages based on Caesar's *De Bello Gallico*; (2) a thorough review of grammatical forms and constructions found in the *De Bello Gallico*; (3) a careful study of synonyms. As the course is informal, special attention can be given to any subject in which the student is deficient. M. MISS PELLETT.

6. Prose Composition Based on Cicero.¹—Like course 5, using the orations as a basis. M. MISS PELLETT.

NOTE.—The courses 1-6 are intended for three classes of students: (1) those who are preparing to enter college; (2) those who wish to study Latin for their own benefit; (3) teachers of Latin who from the topics and questions in each lesson can receive suggestions for their own work, e.g., the points to be emphasized at different stages in Caesar, Cicero, and Vergil.

¹ This course commands no credit.

COLLEGE

7. Cicero: *De Senectute* (4-first half).—The entire essay is read with studies in syntax and exercises in prose composition based upon the text of each lesson. M. MISS PELLETT.

8. Terence: *Phormio* (4-second half).—This play, as a specimen of the highest development of Roman Comedy, is carefully studied with regard to composition, presentation, etc. Attention is also given to vocabulary, metrical treatment, and ante-classical forms and constructions. M. ASSISTANT PROFESSOR BEESON.

9. Livy (5).—The twenty-first book and a large part of the twenty-second, describing Hannibal's expedition against Rome up to Cannae, are read, with accompanying studies in literary style and syntax and exercises in prose composition, based in each case upon the portion of text assigned in each lesson. Mj. ASSISTANT PROFESSOR BEESON.

10. Horace: *Odes*, Books i-iii (6).—This course includes commentary upon the details of each ode, syntactical, historical, illustrative, etc.; translations, analysis of thought, and general interpretation, and a study of the metrical form. A list of general topics, material for the study of which is to be found in the odes, is presented at the outset, and the student is expected to select one of these for his especial study. Mj. PROFESSOR MILLER.

11. The Latin Subjunctive.—The course presents a systematic treatment of the subjunctive according to the latest scientific theories. All the forms found in preparatory Caesar or Cicero are classified. The student may choose to classify the forms either in Caesar or in Cicero, or in such a combination of the two as shall be equivalent in amount to either. The course is intended primarily for teachers. Mj. MISS PELLETT.

12. Advanced Prose Composition (44).—The course offers to teachers and others an opportunity to perfect themselves in Latin syntax and in sentence and paragraph structure. The exercises are graded from simple passages in the style of Caesar to more difficult extracts in the style of Cicero. Prerequisite: three Majors of college Latin. Mj. ASSISTANT PROFESSOR BEESON.

13. Cicero: *De Amicitia*.—Primarily a translation course, with questions based on subjects suggested by the text. The lessons will afford drill in syntax and some practice in the writing of Latin. M. ASSISTANT PROFESSOR BEESON.

14. Plautus (20).—

A. *Captivi*.—This course will deal especially with the linguistic side of Plautus. The vocabulary and scansion will be studied and ante-classical forms and constructions noted. Good idiomatic translation will be required. M.

B. *Trinummus*.—Here the literary side will be emphasized. The course will deal especially with Plautus' style, plot, and delineation of character. As in the first minor, much attention will be paid to translation. M.

ASSISTANT PROFESSOR BEESON.

15. Tacitus: *Agricola* and *Germania* (11).—In the reading of these works both their historical importance and their literary merits are brought out. The course is an introduction to the language and style of Tacitus. Mj. ASSOCIATE PROFESSOR BEESON.

16. Cicero: *Epistulae* (24).—A study of the character and career of Cicero from the evidence afforded by the material contained in one hundred selected letters and from supplementary historical and biographical sources. The course also deals with the peculiarities of epistolary Latin and with the general subject of letter-writing in ancient Rome. Mj. ASSISTANT PROFESSOR BEESON.

17. Ovid (10).—Selections from *Epistulae*, *Amores*, *Fasti*, *Metamorphoses*, and *Tristia*. The object of the course is to make a general study of the life and works of Ovid and of his place in Roman literature. (Informal.) Mj. PROFESSOR MILLER.

18. Seneca: *Tragedies* (33).—The tragedies of Seneca will be studied for their style, as characteristic of the period, and their content; they will be compared with the corresponding Greek dramas, and their influence upon English drama will be touched upon. Three plays will be read from the Latin text and the remainder from an English translation. (Informal.) Mj. PROFESSOR MILLER.

19. Horace: *Satires and Epistles*.—Selected satires and epistles are carefully read and analyzed, with particular regard to argument, character portrayal, style, and their place in literature. (Informal.) Mj. PROFESSOR MILLER.

20. Horace and Persius: *Satires* (30).—A brief review of the predecessors of Horace in the field of satire, a reading of selected satires of Horace and Persius, with a study of the characteristic features of each. (Informal.) Mj. PROFESSOR MILLER.

21. Juvenal (38).—The object will be to present, through the study of selected satires, a picture of life and manners at Rome under the Early Empire. (Informal.) Mj. ASSOCIATE PROFESSOR BEESON.

22. Topical Studies in the Works of Vergil.—This course presupposes a considerable familiarity with Vergil on the part of the student. It is not a reading course, but the *Eclogues*, *Georgics*, and particularly the *Aeneid*, will be the field of investigation under various topics relating to different objects of study in the works of this author. A list of topics will be presented to the student, of which the following are typical: "Vergil's Verse and Its Metrical Peculiarities"; "Poetic Constructions in Vergil"; "Vergil as a Poet of Nature"; "The Aeneid as a National Epic"; "Vergil's Use of Metaphor and Simile." The student will be expected to select a certain number of these topics and, with them in mind, to go through the works of Vergil under direction of the instructor, collect all material bearing upon them, and present his results in finished form. The instructor will at all times furnish such aid as may be necessary and will criticize the results. (Informal.) Mj. PROFESSOR MILLER.

23. Roman Conception of the Immortality of the Soul.—This course is the study of a topic and is based for material upon a variety of authors: Cicero's *Tusculan Disputations*, i, *De Senectute*, *De Amicitia*, *Epistulae*; Vergil's *Aeneid*, Book vi; Horace's selected odes; Ovid, Seneca, Persius, etc. (Informal.) Mj. PROFESSOR MILLER.

24. Training Course for Teachers of Latin (46).—The object of the course is to give the teacher working alone and often at a distance from authorities, an opportunity to appeal for assistance and advice along any lines connected with his teaching of Latin. Naturally there are some subjects which nearly all teachers find it profitable to take up in a somewhat formal way, e.g., pronunciation, translation, metrical reading, composition, etc. In addition to these, each teacher will have his own problems to discuss. The course is designed to meet these general and individual needs. (Informal.) Mj. PROFESSOR MILLER.

Members of the Latin Department will endeavor to arrange informal courses for students who are able to do work of an advanced nature, whenever practicable.

ROMANCE LANGUAGES AND LITERATURES

1. Elementary French.—In two Majors is offered the equivalent of the first year of high-school work in French. The writing of French is required from the beginning.

A(1). The aim is to acquaint the student with the essentials of French grammar, to enable him to turn short English sentences into idiomatic French, and vice versa, and to acquire some ability in translation. Mj.

B(2). This course (1) reviews and extends considerably the knowledge of grammatical principles and the irregular verbs acquired in the preceding Major; (2) fixes it by means of exercises in composition; and (3) through drill in translation develops in the student ability to read easy French at sight. Mj.

ASSISTANT PROFESSOR NEFF.

2. Intermediate French (3).—The work of this course follows immediately upon that of "Elementary French—B." The books read deal with life in France and inform the student regarding the national traits and conditions. The exercises in composition take the form sometimes of a résumé of the text read, sometimes of reproduction in French of exercises based on the text. The grammar is studied inductively. Mj. ASSISTANT PROFESSOR NEFF.

3. Advanced French (4).—Idioms, synonyms, diction; (a) systematic review of elementary French grammar; (b) syntax; (c) reading: Merimee, *La Chronique de Charles IX*; (d) composition based on the reading. Prerequisite: course 2. Mj. ASSOCIATE PROFESSOR DAVID.

4. French Reading.—(A. *Modern Novels*, or B. *Modern Dramas*.)

A. *Modern Novels* (5).—Anatole France, *Le Crime de Sylvestre Bonnard*; Honoré de Balzac, *Eugénie Grandet*; George Sand, *La Mare au Diable*. Criticism of the novel. Prerequisite: course 3. Mj.

B. *Modern Dramas* (5).—V. Hugo, *Hernani*; E. Augier, *Le Gendre de M. Poirier*; A. Dumas fils, *La Question d'Argent*; E. Rostand, *Cyrano de Bergerac*. Criticism of the drama. Prerequisite: course 3. Mj.

ASSOCIATE PROFESSOR DAVID.

5. Advanced French Reading.—(A. *Modern Dramas and Lyrics*, or B. *Modern Novels and Lyrics*.)

A. *Modern Dramas and Lyrics* (6).—The work will be based on the dramas of 4B and selections from the lyric poets, especially Chénier, Lamartine, Musset, Victor Hugo; versification; criticism of lyric poetry. Prerequisite: course 4A. Mj.

B. *Modern Novels and Lyrics* (6).—The work will be based on the novels of 4A and selections from the lyric poets, especially Chénier, Lamartine, Musset, Victor Hugo; versification; criticism of lyric poetry. Prerequisite: course 4B. Mj.

ASSOCIATE PROFESSOR DAVID.

NOTE.—If A has been chosen in course 4, A of course 5 must be chosen; if B of course 4, B of course 5 must be chosen.

6. Cours de Style (12).—Principes généraux, exercices pratiques de composition française. Prerequisite: 6 Majors of French or the equivalent. Mj. ASSOCIATE PROFESSOR DAVID.

7. Introduction to the Study of French Literature (19, 20).—A general survey of French literary activity from 1600 to 1850. Prerequisite: 6 Majors of French or the equivalent. Mj. ASSOCIATE PROFESSOR DAVID.

8. Molière and the French Comedy in the Seventeenth and Eighteenth Centuries.—

A. *Molière and His Contemporaries* (14).—(Seventeenth century.) Mj.

B. *Molière's Successors* (14A).—(Eighteenth century.) Mj.

These two majors include a study of the lives of the principal authors, their influence on the theater, with intensive study of the following plays: (a) Corneille, *Le Menteur*; Molière, *Les Précieuses Ridicules*, *Tartuffe*, *Le Misanthrope*, *L'Avare*, *La Critique de l'Ecole des Femmes*, *Le Bourgeois Gentilhomme*, *Les Fourberies de Scapin*, *Don Juan*, *Les Femmes Savantes*, *Le Malade Imaginaire*; (b) Regnard, *Le Légataire Universel*, *Le Joueur*, *Les Folies Amoureuses*; Lesage, *Turcaret*; Marivaux, *Le Jeu de l'Amour et du Hasard*, *Le Legs*, *L'Épreuve*, *Les Fausses Confidences*; Destouches, *Le Philosophe Marié*; Gresset, *Le Méchant*; Beaumarchais, *Le Barbier de Séville*, *Le Mariage de Figaro*. This is intended to familiarize the student with the masterpieces of classical comedy. Constant comparison will be made between the language of these writers and that of today, and the most unusual constructions will receive consideration. The work is conducted wholly in French. Prerequisite: course 7 or its equivalent.

ASSOCIATE PROFESSOR DAVID.

9. Molière.—A critical study of all the plays of the great writer. All the reports must be written in French. This secures to the student a thorough course in advanced French composition as well as a comprehensive knowledge of Molière's work. Prerequisite: 9 Majors of French. Mj. ASSOCIATE PROFESSOR DAVID.

10. Old French (elementary course) (76).—The importance of some historical knowledge of French as a part of the teacher's equipment is generally recognized. Old French is also an indispensable language for research in the modern literatures. This course may be taken to advantage by students looking forward to resident graduate work. A reading knowledge of modern French is necessary, and some knowledge of German and Latin is desirable. Texts: *La Chanson de Roland*; *Aucassin et Nicolette*; *Erec et Enide*; *La Representation d'Adam*. For reference: Nyrop, *Grammaire historique de la langue française*, Vols. I-IV. The student should consult instructor before registering. Mj. PROFESSOR JENKINS.

11. Elementary Italian (B1).—This course is devoted chiefly to the study of Italian grammar. It includes practice in composition and in translation. The lessons are based on Grandgent's *Italian Grammar* (new edition, with Wilkins' *Lessons and Exercises*), Wilkins' *Notes on Italian Grammar*, and Wilkins' and Altrocchi's *Italian Short Stories*. Mj. PROFESSOR WILKINS.

12. Intermediate Italian (B2).—The main object of this course is to enable the student to understand written Italian thoroughly and readily. The work is chiefly in translation. Goldoni's *La locandiera* and part of Manzoni's *I promessi sposi* are read as carefully as possible, and one or two other books are assigned for more rapid reading. The course includes also some practice in composition. Prerequisite: course 11 or its equivalent. Mj. PROFESSOR WILKINS.

13. Elementary Spanish (C11).—This course is designed to enable the student to attain a clear conception of the fundamental principles of Spanish grammar and syntax. All the lessons furnish practice in turning Spanish into English and English into Spanish. Mj. ASSISTANT PROFESSOR CALDERWOOD.

14. Intermediate Spanish (C12).—This course consists of: (1) a more detailed study of the principles of Spanish grammar, as presented in Ramsay's *Textbook of Modern Spanish*; (2) the writing of sentences illustrating these principles; (3) the careful reading of about 350 pages of simple Spanish prose, including Padre Isla's version of *Gil Blas*, Hill's *Spanish Tales for Beginners*, and *Zaragüeta* by Carrión-Aza, special attention being directed to points of syntax, idiomatic expressions, and synonyms; and (4) exercises in prose composition based on the reading assignments. Prerequisite: course 13 or its equivalent. Mj. ASSISTANT PROFESSOR CALDERWOOD.

15. Spanish Prose Composition (C3).—This course is designed to give the student a practical command of Spanish as a medium of expression. It may be varied to accommodate the needs of the student, now tending more to commercial forms of composition, now to those forms used in literature or by the traveler. Prerequisite: course 14 or its equivalent. Mj. ASSISTANT PROFESSOR CALDERWOOD.

16. Modern Spanish Novels and Dramas (C15).—This course is intended to fit students for the appreciative reading of the best modern Spanish Literature. It includes the careful reading of about 450 pages of fairly difficult modern Spanish prose and verse, including *La Familia de Alvarado* by Fernán Caballero, *José* by Palacio Valdés, and *Guzmán el Bueno* by Gil y Zárate, special attention being directed to: (1) the more difficult points of syntax; (2) translation into Spanish of selections based on the reading; and (3) abstracts of the reading assignments to be written in Spanish. Prerequisite: course 14 or its equivalent. Mj. ASSISTANT PROFESSOR CALDERWOOD.

17. Don Quixote (C16).—This is mainly an interpretative and critical reading course, embracing the first fourteen chapters of the first part and the first ten chapters of the second part of *Don Quixote*. The life of Cervantes and the

literary movement of his time will be noticed. In the reading the peculiarities of syntax, style, and diction, as compared with later Spanish, will be studied. A bibliography of the more important works will be given, enabling the student who may wish to make a more extensive study of the author to do so. Prerequisite: course 16 or its equivalent. Mj. ASSISTANT PROFESSOR CALDERWOOD.

GERMANIC LANGUAGES AND LITERATURES

1. Elementary German.—In two Majors is offered the equivalent of the first year of high-school work in German. The writing of German is required from the beginning.

A (1).—This course aims to ground the student in the essentials of German grammar through the reading of easy idiomatic German and exercises in which special attention is given to the construction of the verb, noun, and adjective. Mj.

B (2).—Continues and extends A to include the passive voice and the subjunctive, and calls for extensive reading of easy prose. Mj.

ASSISTANT PROFESSOR VON NOÉ.

2. Review of First-Year German.—The course provides a thorough review of as much of the elementary grammar and syntax of the language as is usually presented in the first year of standard high-school work. It will appeal especially to students who desire to renew their acquaintance with the fundamentals preparatory to further study of German and to those who have acquired their knowledge of the tongue by some natural method. [This course is interpolated in the regular sequence and does not command credit; the charge for it is \$16.00 regardless of combination.] ASSISTANT PROFESSOR GRONOW.

3. Intermediate German (3).—Devoted primarily to the reading of easy modern prose and incidentally to a rapid review of elementary German grammar. The text read will always serve as the drill-ground for grammar work. Attention will be directed constantly to German idiom, and from time to time the student will be required to reproduce in German what he has read. In the composition work emphasis will be laid upon word-order and sentence-structure, the knowledge of which is essential to the proper appreciation of the language. Mj. ASSISTANT PROFESSOR GRONOW.

4. German for Medical Students (4Z).—The aim of this course is the acquisition of a vocabulary which will enable the student to read German medical books intelligently. Prerequisite: 3 Majors of German. Mj. ASSISTANT PROFESSOR GRONOW.

5. Elementary Prose Composition (4).—Through the reproduction of ordinary narrative English into German and by means of original composition the student is led to appreciate the difference between English and German idiom. The course also provides a comprehensive review of the grammar and syntax of the language. Mj. ASSISTANT PROFESSOR GRONOW.

6. German Idioms and Synonyms (5).—The course comprises the study of: (1) the method of word-formation; (2) grammatical idioms; (3) synonyms, together with a thorough review of syntax. Attention is given to German-English cognates. Composition based upon selected modern German prose affords the basis of instruction. The course will be helpful to those who teach the language in secondary schools. Mj. ASSISTANT PROFESSOR GRONOW.

7. Modern German Plays (6).—This is primarily a reading course. It aims at the acquisition of the foundations of idiomatic German on the basis of the language of the dramas read. Mj. DR. PHILLIPSON.

8. Scientific German.—The aim of the course is to enable the student to read German scientific prose. It has the same prerequisites as the preceding course and is co-ordinate with it. Short exercises in German composition connected with the text are required. Mj. ASSISTANT PROFESSOR VON NOÉ.

9. Deutsche Aufsätze (11).—An advanced course in composition including a study of German synonyms, the more difficult principles of syntax, and the elements of style. Mj. ASSISTANT PROFESSOR VON NOÉ.

10. Introduction to the Study of German Literature (40A, B, and C).—The first required course in German literature. Through a critical study of representative masterpieces and supplementary readings the student is introduced to the whole range of the literature and furnished some knowledge of the notable movements in it. The course is divided into two parts, either of which may be taken without the other. Prerequisite for either Major: course 9 or its equivalent.

A. This covers the field of German literature from the earliest times through Lessing. The selections from Old High German and Middle High German literature will be read in modern German translations. Mj.

B. This is a continuation of A and follows the same general plan. The works to be studied are chosen from Goethe, Schiller, Kleist, Heine, Eichendorff, Grillparzer, Hauptmann, and Sudermann. Mj.

DR. PHILLIPSON.

11. The German Short Story (43A).—The development of the short story (*Novelle*) into an art form is one of the most interesting phenomena of nineteenth-century literature. The study of this evolution in Germany, together with the various forms of the short story extant—the dramatic, the lyric, the historical, the social, etc.—is the object of this course. The student will read, under guidance, selected stories of Kleist, Tieck, Hoffmann, Riehl, Auerbach, Rosegger, Meyer, Keller, Fontane, Liliencron, and others. Reports and essays (in German) will be required. This course may be taken by anyone who has a fair reading and writing knowledge of German. Mj. DR. VON KLENZE.

12. Aufsätze und Stilübungen (61).—A sequent to "Deutsche Aufsätze." It includes a study of masterpieces of the best German stylists and the criticism of graded themes. The theme subjects deal with German life, history, and literature. The aim of the course is to develop the student's ability in essay writing. Prerequisite: course 9 or its equivalent. Mj. ASSISTANT PROFESSOR VON NOÉ.

13. Heine's Prose and Poetry (42).—The reading of the larger part of the lyrics, the dramas, and the *Reisebilder* will be accompanied by a study of the author's life and the general tendencies of the Romantic movement, and by investigations into the poet's sources and literary technique. Prerequisite: course 10B or its equivalent. Mj. DR. PHILLIPSON.

14. Goethe's Lyric Poetry as an Exponent of His Life (44).—No writer so minutely reflects his moral and intellectual growth in his lyric poetry as does Goethe. A chronological study of his lyrics affords, therefore, a subtle appreciation of his whole individuality. The student will pursue a study of the standard biographies of Goethe, together with his letters and autobiographical writings, while at the same time reading carefully the lyrics written during each period of his life. Essays in German are required throughout the course. Mj. DR. VON KLENZE.

15. Friedrich Hebbel: A Study of Modern German Drama.—Hebbel was one of the most powerful individualities of the nineteenth century and one of the most significant figures of German literature. His drama is the expression of new principles in dramatic literature, which many years later appeared in modified form in the social dramas of Ibsen. A comparison of conceptions of tragedy as found in the classic drama of the Greeks, in the Shakspearean drama, and in the work of modern playwrights will be made in order to define as clearly as possible Hebbel's contribution. Mj. DR. VON KLENZE.

16. Deutscher Satzbau und Stil (101).—The course aims to develop an instinct for idiom and an active sense of the niceties of style by discussing, varying, and independently reproducing passages from great stylists of the nineteenth century. Prerequisite: course 12 or its equivalent. Mj. ASSISTANT PROFESSOR VON NOÉ.

17. Survey of German Literature (141A, B, and C).—

A. Traces the development of German literature from the scanty remnants of the earliest period of tribal migrations, heroic romances, and early ballads, through the first period of efflorescence—the twelfth and thirteenth centuries with

their troubadours and national epics; the period of Humanism and the Reformation, up to the second period of efflorescence—the eighteenth century. Mj.

B. Aims at a more detailed study of prominent writers of the eighteenth century; the Romantic Movement with its best representatives, and the most characteristic novelists, dramatists, and lyricists of the nineteenth century. A is not prerequisite to B. Mj.

DR. VON KLENZE.

NOTE.—Prerequisites for both A and B: Students taking either one of these courses must have a good reading knowledge of German as well as the ability to write it with some ease. It is advisable that at least one of the courses in some special field of German literature, like "The Short Story," or "Goethe's Lyrics," or their equivalents, should precede this course.

18. The Literary Relations between England and Germany in the Eighteenth Century (190A).—This course should appeal especially to those students who make English their Minor and to those who make English their Major and German their Minor. The main subjects treated are Addison's *Spectator* and its numerous German imitations; Milton's influence; the influence of English satire in Germany; the part Shakspeare played in the old German drama and dramatic criticism, especially in the case of Lessing and Herder; Pope, Young, Thomson, and Dryden; Ossian and Percy's *Reliques*; the *Robinsonaden*; the imitations of Sterne, Richardson, and Fielding. Mj. ASSISTANT PROFESSOR VON NOÉ.

19. The Literary Relations between France and Germany in the Eighteenth Century (190B).—This course aims to outline the influence of France's intellectual and literary life upon Germany's eighteenth-century literature. Mj. ASSISTANT PROFESSOR VON NOÉ.

20. Contemporary German Literature (55).—The course is designed to give the student an appreciation of current German Literature and to introduce him to the modern literary tendencies in Germany. Representative novelists, dramatists, and lyric poets are studied. This course presupposes a good reading knowledge of German. Mj. or DMj. ASSISTANT PROFESSOR VON NOÉ.

21. Gothic (103).—A consideration of Gothic phonology, morphology, and syntax in connection with the reading of selections from the Bible translation of Wulfil. Intended as a review course or for those who have had philological training. Mj. PROFESSOR WOOD.

22. Old High German (104).—The reading of selections from Braune's *Althochdeutsches Lesebuch*, with reference to the same author's *Abriss der althochdeutschen Grammatik*. This course is a natural sequent of course 21. Prerequisite: course 21 or its equivalent. Mj. PROFESSOR WOOD.

23. Old Saxon (109).—The work will be based on Holthausen's *Altsächsisches Elementarbuch*. Open to those who have had courses 21 and 22 or their equivalent. Mj. PROFESSOR WOOD.

24. Old Norse-Icelandic Prose (146).—The purpose of the course is to offer students who have had a beginning course in Icelandic an opportunity to learn to read Icelandic prose readily. An annotated saga text providing about three hundred pages of reading matter is selected, and the student is asked to read, in addition, on the antiquarian and literary problems involved. During 1917-18 the *Egils saga Skallagrimssonar* will be read. Zoëga's *Old Icelandic Dictionary* is recommended. Prerequisite: residence course 112 or its equivalent; a beginner's course involving a historical study of the sounds and inflections of the language and the reading of about 40 pages of Old Icelandic prose. This prerequisite course must itself be preceded by "Gothic." Mj. ASSISTANT PROFESSOR GOULD.

25. The Teaching of German in Secondary Schools (97X).—The method of teaching German in high schools and academies has undergone radical changes within the last few years. The object of this course is: (1) to make the teacher acquainted with the new methods and their application to the teaching of pronunciation, grammar, composition, reading, and translation; (2) to furnish him an opportunity to discuss his particular problems. Mj. ASSISTANT PROFESSOR GRONOW.

German Literature in English.—(Cf. description under General Literature 7.) Mj. DR. PHILLIPSON.

THE ENGLISH LANGUAGE AND LITERATURE

ELEMENTARY

1. English Grammar.—An elementary course in practical English grammar, assuming no technical knowledge of the subject, and intended for students who need instruction or review in the fundamental principles of the language, especially with relation to the correct combination of words in sentences. In some cases this course will be desirable as preparation for the following composition courses. [This course commands no credit; the charge for it is \$16.00 regardless of combination. For "English Grammar for Teachers" see course 39 below.] ASSOCIATE PROFESSOR MARSH.

ACADEMY

2. Preparatory English Composition.—

A. A simple introduction to English composition, intended mainly for the following classes of students: (1) those who have had no formal training in the subject; (2) foreigners with some knowledge of grammar, but without much experience in writing the language; (3) any persons who are not properly prepared for a more advanced course. The work is roughly equivalent to the composition requirements of the first two years of a good high school, consisting in the writing of simple themes based mainly on the student's own experience and observation and the preparation of exercises illustrating the simpler rhetorical principles. For credit see note below. Mj.

B. A more advanced course than the foregoing, substantially equivalent to the composition work of the last two years in a good high school, and definitely intended to prepare for college composition. Teachers in secondary schools also may find the course helpful in their work. Business and professional men whose early training has been deficient can gain valuable experience in practical composition from this course or the foregoing, according to the extent of their training. The work consists of exercises illustrating all the main principles of rhetoric and themes of a somewhat more difficult type than those asked for in course A. For credit see note below. Mj.

ASSOCIATE PROFESSOR MARSH.

3. Preparatory English Literature.—In two Majors the works in English and American literature required for admission to college will be studied. The aim, however, is to make the courses valuable, not only to students preparing for college, but also (1) to teachers of English in preparatory schools, and (2) to all persons who wish to take up, either for the first time or by way of review, the more simple and concrete phases of the study of literature. Those who desire the entire high-school work in masterpieces should register for the two Majors in succession; those who wish to take the work for review, or to obtain help in methods of teaching the masterpieces, may choose for themselves. For credit see note below.

A. This course will cover approximately the work in literature of the first two years of the high school, with study of the simpler masterpieces among those listed "for reading" in the list of college-entrance requirements. Mj.

B. In this course the masterpieces listed "for study" will be emphasized, with attention also to some of the more difficult books among those listed "for reading." The work is approximately that of the last two years of high school and directly preparatory for college. Mj.

ASSOCIATE PROFESSOR MARSH.

NOTE.—Students who satisfactorily complete and pass the A's of both "Preparatory English Composition" and "Preparatory English Literature" will receive credit for the second of the three units in English required for entrance to college; those who satisfactorily complete and pass the two B's will receive credit for the third of the three units.

COLLEGE

4. **English I (1).**—This is designed to be a full equivalent of the first course in English composition and rhetoric required of all students in residence and commands corresponding credit. It presupposes the ordinary training in English composition received in a good high school and represented in a general way by the preceding courses. More detailed study of the principles of rhetoric, as presented in a more advanced textbook, is made, and a higher standard of theme work on a variety of topics, usually chosen (subject to certain limitations) by the student himself, is expected. The emphasis throughout is placed upon writing of the most practical sort. A volume of prose selections is also used. Mj. ASSOCIATE PROFESSOR MARSH.

5. **English III (3).**—This course is designed to be a full equivalent of the second course in English rhetoric and composition required of all students in residence and commands corresponding credit. The course aims: (1) to give training in structure, and (2) to give instruction and practice in the four forms of composition—exposition, argumentation, description, and narration. To these ends a textbook is required, lesson papers must be submitted, and a final examination taken. The written work will consist of six long themes, each from 1,500 to 3,000 words in length, and twelve short themes of from 100 to 200 words each, in addition to exercises based on the textbook. Students may gain admittance to the course by passing creditably course 4 or by submitting to the instructor an original exposition or argument showing ability. Mj. ASSISTANT PROFESSOR HULBERT.

6. **English IV.**—

A. *Exposition—Argument.*¹—A course designed to teach the principles of expository and argumentative writing: English composition as training in logical, constructive thinking.

1 (4B).—The work consists of an analysis of models of exposition; inductive study of definition, analysis, explanation, familiar essays, criticism, reproduction, and the like; and of extensive practice in writing the various forms. Students will be permitted to write in the lines of their individual interests. Mj.

2 (4C).—Work correlative with English IVA-1; consists of a similar approach to the problems of argumentation. The course is designed on the basis of practical logic, involving critical study of logical processes of thinking, handling of evidence, detection of fallacies, and the like. Writing in the fields of the student's interests. Mj. ASSOCIATE PROFESSOR LYMAN.

B. *Story-Writing.*¹—A course of two Majors replacing the single Major entitled "Narrative and Descriptive Writing" as formerly given. It is designed to teach the principles of story-writing with particular reference to the short story. The textbook has been prepared by Mr. Grabo to meet the particular needs of correspondence-study students.

1 (4A). Includes: an autobiography; exercises to bring out the essentials of narrative; exercises in the point of view; exercises in the study of the unities of action, time, and place; exercises and studies in exposition and preparation; a study of short-story introductions; study of and exercises in character drawing; descriptions of persons and places; a study of the writing of dialogue. Original character sketches, descriptions, themes in dialogue, and several short stories will be demanded in this half of the course. It aims to bring out the fundamentals of story structure and is designed for those who desire to write either short stories or novels. Considerable reading in specified standard novels and short stories is demanded. Mj.

2. Continues 1 and takes up: a study of story ideas; construction of plots to illustrate various types of stories; a consideration of titles and the names of characters; a study of suggestion and restraint; a study of unity of tone; a study of the psychology of story-writing. In this Major more analyses of stories

¹This course is open to others than graduates of "English III" who can present evidence, in the form of a statement of previous work and original productions, that they are prepared for it.

are asked for than in the first; more attention is paid to the development of plot, and more original work in the short story is expected. Reading of short stories and novels is required—a bibliography of these is furnished with the lessons. Prerequisite: English IVB-1; but those who have received credit for "Narrative and Descriptive Writing," the English IVB of preceding years, will be permitted to register for this Major. Mj. MR. GRABO.

C. *Journalistic Writing*.¹—Study is made of the News Story, the Book Review, the Editorial, and the Feature Story. The forty lessons constituting the course include: (1) critical exercises, and (2) original work upon topics assigned by the instructor or approved by him from lists submitted by the student. A text is used as a basis for a part of the work. The student is expected to study the form of news stories and editorials in at least one good newspaper, to follow current topics in several of the best magazines, and to gather some of the material for his papers (notably the feature stories) from first-hand observation. Mj. MR. GRABO.

7. **English V.**—*Magazine Writing*.¹—A course of forty lessons embracing the study and the writing of the Special Article, Literary Criticism, and the Personal Essay. The student will be required to read examples of these forms and to submit analyses of them. A volume of selected essays will serve as a text for the latter part of the course. Mj. MR. GRABO.

8. **English VI (5, 6).**—*Advanced Composition*.—For students who have credit for a Major of "English IV" or for "English V" and who are desirous of receiving criticism upon essays, stories, or articles. There are no lessons or exercises, the sole requirement being that the student submit 30,000 words of original matter. The initiative lies solely with the student; the instructor confines himself to criticism and advice. It is essential that any student entering this course have definite work in mind. Others than graduates of "English IV" or "English V" will be admitted only upon the submission of MS displaying a technique adequate to the course. Mj. MR. GRABO.

9. **Commercial Correspondence.**—A course in business-letter writing designed for teachers who are interested in the vocational and practical aspects of their subjects, especially teachers of English and of commercial branches. It is intended also for those who desire practical instruction in business writing. The course deals with the argumentative, persuasive, rhetorical, and formal elements of commercial correspondence. Some of the topics considered are: how a letter is read; the value of paragraphing; the first sentence; mistakes in language; the negative and the positive suggestion. The following special forms are studied intensively from models: acknowledgments, remittances, notices of shipment, adjustment, credit, collection, recommendation, application, sales. Prerequisite for college credit: "English I" or its equivalent. Mj. ASSOCIATE PROFESSOR LYMAN.

10. **Proofreading.**—The course aims to equip the student with a knowledge of the practical details of typography, such as size of type, the methods employed by printers in composition, the niceties of spacing, and the work actually done by the printer in correcting proofs; to train the eye, the mind, and the memory in the application of consistent standards and the enforcement of rules of "style." With this groundwork the student is taught that proofreading is not merely a correction of misspelled words, but a profession calling for the use of a wide range of faculties, of individuality, and of independent judgment. The instruction includes actual reading of proof and a practical application of theoretical details. Before the course is completed the student will have been drilled in the fundamental essentials of English. Prerequisite: "English I" or an equivalent course. M. DR. POWELL.

11. **Copy-Editing.**—A practical course designed especially for those desiring to equip themselves for secretarial duties, or for filling the position of "copy-editor," and for writers and others whose work brings them in contact with printing and publishing houses. The student is trained to decide how his own

¹ See note on p. 38.

manuscript, or the work of others passing through his hands, should be treated and arranged for the printer, and is taught how to prescribe the appropriate typographical treatment for any class of "copy." Drill in all the practical details as well as the intellectual features of writing, by means of actual practice with all sorts of "copy," is a feature of the course. Prerequisite: course 10. M. DR. POWELL.

12. The Forms of Public Address (10).—This course is intended for students of public speaking. It gives training in the essential principles of constructive thinking, writing, and speaking, and includes gathering of information, organizing it for a definite purpose, and presenting it to meet varying conditions. In these ways the problem of organizing one's thought for public presentation, either in speech or in writing, is approached inductively through the careful analysis of certain masterpieces of public address. Among the forms studied are the following: the argument, the eulogy, the editorial, the commemorative address, the dedication, the toast, the after-dinner speech. Each student will be allowed reasonable leeway in selecting the particular form or forms of address he wishes to study intensively. Prerequisite: "English I" and "English III" or their equivalents. Mj. ASSOCIATE PROFESSOR LYMAN.

13. Versification.—This course is offered for students interested in the technique of English verse. It cannot be expected that such a course will develop finished poets. But it is offered for the purpose: (1) of training students in verse-writing, and (2) of giving them an understanding of the technique of verse, and hence increasing their appreciation of English poetry. The prime requisite in the student is that he have an interest in the subject, not that he have any special ability to write verse. To accomplish the purposes of the course, the student will study a textbook, make certain analyses of pieces of English verse, and write original verse of different types. Prerequisite: "English I" or its equivalent. M. ASSISTANT PROFESSOR HULBERT.

14. The Development of English Literature (40).—This course is designed to be the full equivalent of the first required college course in English literature. It introduces the student to the whole range of English literature by requiring the reading of selected masterpieces from *Beowulf* to the present time. Selections from English authors, of both prose and poetry, and a short history of English literature are used as the basis of study. The aim is: (1) to give the student first-hand acquaintance with typical parts of the work of the leading English writers; (2) to study the place of the masterpieces in the development of English literature in their relation not only to one another but also to historic events and conditions; (3) to give the student the foundation for an appreciation of literature. The course as a whole affords a broad introduction to the more detailed and critical study undertaken in the group of courses under 17, "English Literature by Periods." Mj. ASSOCIATE PROFESSOR MARSH.

15. An Introduction to American Literature (160B).—A series of studies of American life in American literature. The first few lessons are given over to pre-Revolutionary literature for the purpose of observing the earliest departures from English models and traditions. Chief emphasis is, however, thrown on the poets, essayists, and novelists of the nineteenth century. While the aim of the course is to put the student in the way of obtaining a preliminary acquaintance with the subject as a whole, assigned readings are restricted to selected works of twelve or fifteen representative men of letters, from Irving and Cooper to Lanier and Whitman. Mj. ASSISTANT PROFESSOR DAVENPORT.

NOTE.—For admission to any one of the following courses, course 14 or its equivalent is prerequisite.

16. An Introduction to the Study of Shakspeare (41).—This course is planned to give the student a knowledge of Shakspeare's life and work, a familiarity with typical plays of the various periods in his dramatic career, some acquaintance with his relation to his age and its literature, and an introduction to the field of Shakspearean criticism and scholarship. The following plays will be studied: *Richard III*, *A Midsummer-Night's Dream*, *Romeo and Juliet*, *I Henry IV*,

Much Ado about Nothing, Twelfth Night, Hamlet, King Lear, Antony and Cleopatra, and The Tempest. Mj. ASSOCIATE PROFESSOR BASKERVILL AND MRS. BASKERVILL.

17. English Literature by Periods (42-48).—A series of seven majors which cover with some minuteness the history of English literature from the middle of the sixteenth century down to 1892. In each Major the work consists mainly in the reading of a large number of representative masterpieces of the period and the preparation of answers to questions based upon this reading. Textbook work in a literary history of each period is assigned and the lesson sheets furnish much supplementary material, such as bibliographies of the selected authors, suggestions for study of their principal works, etc. It is not necessary that the series be taken in chronological order, as each course is complete in itself; but those intending to take the whole series are advised to follow the chronological order. The series as a whole is designed to give first-hand knowledge of the chief masterpieces of modern English literature. Persons who have had course 14 or its equivalent, and who desire to do systematic reading of English literature without regard to college credit, may also arrange for any of these courses.

A. English Literature from 1557 to 1599 (42).—Reading from Spenser (at least one book of the *Faerie Queene* and various shorter poems), Wyatt, Surrey, Sackville, Sidney, and the other principal Elizabethan poets; plays by Shakspeare (his early work) and by his predecessors and earlier contemporaries—Lyly, Greene, Peele, Marlowe, and others; Ascham's *Schoolmaster*, Sidney's *Defence of Poesie*, Lyly's *Euphues*, Lodge's *Rosalynde*, and other prose works of the period. Mj.

B. English Literature from 1599 to 1660 (43).—Reading of poems by Milton (his early work), Herrick, and all the prominent Jacobean and Caroline poets; plays by Shakspeare (his later work), Jonson, Beaumont and Fletcher, and the other principal playwrights up to the closing of the theaters; prose by Bacon, Browne, Milton, Taylor, Walton, and others. Mj.

C. English Literature from 1660 to 1744 (44).—Reading of representative prose by Bunyan, Dryden, Pepys, Addison, Steele, Defoe; Milton's late poems (several books of *Paradise Lost*, *Samson Agonistes*, etc.), and the chief poems of Dryden, Pope, Thomson, and various minor poets; plays by Dryden, Otway, Wycherley, Congreve, and other Restoration dramatists. Mj.

D. English Literature from 1744 to 1798 (46).—Reading of novels by Richardson, Fielding, Smollett, Sterne, Johnson, Goldsmith, the so-called "Gothic" romancers, and Fanny Burney; miscellaneous prose by Johnson, Goldsmith, Boswell, Gibbon, and Burke; poems by Gray, Collins, Goldsmith, Chatterton, Blake, Cowper, Crabbe, Burns, and others; plays by Goldsmith and Sheridan. Mj.

E. English Literature from 1798 to 1832 (47).—Poems by Wordsworth, Coleridge, Southey, Scott, Campbell, Moore, Byron, Shelley, Keats, Hunt, Hood, Landor; novels by Scott and Jane Austen; miscellaneous prose by Coleridge, Lamb, Hazlitt, DeQuincey, the reviewers, etc. Mj.

F. English Literature from 1832 to 1892.—

1. Poetry (48A): The student is required to read the principal poems of Tennyson, the Brownings, Matthew Arnold, Clough, the Rossettis, William Morris, Swinburne, and others. Mj.

2. Prose (48B): This will deal with Carlyle, Macaulay, Newman, Arnold, Pater, Ruskin, Stevenson; and will also include novels by Dickens, Thackeray, George Eliot, the Brontës, Meredith, Hardy, and others. Mj.

ASSOCIATE PROFESSOR MARSH.

Courses A-F (or their equivalents) are required of all candidates for the Doctor's degree in English, and at least four of them (or equivalents) for the Master's degree. Hence, though a year of resident study is required for the Master's degree, students may take these required courses by correspondence and later do more highly specialized work in residence. Graduate credit will be given to properly prepared students who do creditable work in their recitation papers and pass the final examination given on each course. Students not entitled to graduate credit, moreover, may register for any of the courses, the only prerequisite being course 14 or its equivalent.

18. The History of the English Language (34A).—This course is offered in the belief that an understanding of what language is and of what the history of the mother-tongue has been is as important as a study of some part of its literature and indispensable to the latter study. It attempts to give a general survey of the development of the English language; its relation to other languages; the chief periods; the development of forms, sounds, and meanings, and foreign influences. Prerequisite: "English III" or two years of college work. Mj. ASSISTANT PROFESSOR HULBERT.

19. The Growth of the English Novel.—The historical development of narrative prose fiction in English is traced in outline from the later mediaeval prose romancers and story-tellers to the beginning of the twentieth century. A brief preliminary review of the field of fiction is attempted in the initial lessons—the qualities shared by novelist and poet, the material common to both, the similarities in general construction of the novel and drama, and throughout, the continental influences are noted, sources inquired into, and the modifications in structure and content of the novel in succeeding periods are indicated. Illustrations of the various aspects and principles of the art of fiction are drawn from the representative works selected.

A. *From Sir Thomas Malory to Oliver Goldsmith (87A).*—In this course one work of each of the following authors is read: Malory, Lyly, Sidney, Lodge, Greene, Nashe, Bunyan, Defoe, Swift, Richardson, Fielding, Smollett, Sterne, and Goldsmith. The character sketch of the seventeenth century and its extension, by Steele and Addison in *The Spectator*, are briefly dealt with, as are other literary forms which contributed to, or tended to shape, the modern novel. Mj.

B. *From Mrs. Radcliffe and Godwin to Stevenson and Kipling (87B).*—Beginning with the reappearance in England of romantic prose fiction—the "School of Terror," or the "Gothic" romance and the "School of Theory," doctrinaire or revolutionary—one work of each of the following authors is read: Walpole, Mrs. Radcliffe, Godwin, Fanny Burney, Maria Edgeworth, Jane Austen, Scott, Cooper, Hawthorne, Lytton, Dickens, Thackeray, Kingsley, Trollope, Reade, Charlotte Brontë, George Eliot, Meredith, Hardy, Stevenson, and Kipling. The course concludes with a brief consideration of fiction as affected by the scientific movement of the nineteenth century, particularly by physiology and psychology. Mj. MRS. GRAHAM.

20. The Drama in England from 1500 to 1600 (84).—This course includes a brief introductory survey of the mediaeval drama, a more detailed consideration of Renaissance drama, with the development of new types and new theatrical conditions, and finally a study of the development of a native romantic drama as revealed in the work of Lyly, Peele, Kyd, Greene, and Marlowe. Mj. ASSOCIATE PROFESSOR BASKERVILL AND MRS. BASKERVILL.

21. The Drama in England from 1600 to 1642 (85).—This course deals with the rise of the comedy of humors and of manners, with the perfection and decadence of tragedy, and with the later phases of romantic comedy. Masterpieces of Jonson, Dekker, Heywood, Beaumont and Fletcher, Middleton, Webster, Massinger, Ford, and Shirley are studied, with attention not only to the characteristics of these writers but to their interrelations, their influence on the course of the drama, and their reflection of social conditions. Mj. ASSOCIATE PROFESSOR BASKERVILL AND MRS. BASKERVILL.

22. The Plays of Shakspeare.—In two Majors is offered a rapid but fairly full survey of the plays of Shakspeare in chronological sequence. Attention will be directed to Shakspeare's handling of character and plot, to the development of his taste and technique, to the influence exerted upon his work by the literary and social trends of the time, and to evidence for dates, editions, sources, etc., for the individual plays.

A. *The Plays of Shakspeare from 1591 to 1599 (70A).*—This course, covering the plays through *Much Ado about Nothing*, includes the early tragedies and comedies, the chronicle plays, and the first masterpieces in comedy. The structure of comedy, the characteristics of witty comedy, Shakspeare's early style, and the reflection of social conditions in his comedies of this period are stressed. Mj.

B. *The Plays of Shakspeare from 1599 to 1611* (70B).—This course, beginning with *Julius Caesar* and *As You Like It*, includes the chief tragedies, the Roman plays, and the comedies of the middle and later periods. Especial emphasis is laid on the structure and art of tragedy, on the satiric element in the earlier plays of this period, and on the dramatic seriousness of Shakspeare's work. Mj. ASSOCIATE PROFESSOR BASKERVILL AND MRS. BASKERVILL.

NOTE.—Course 16 or its equivalent is a prerequisite for courses 20, 21, and 22. Students who wish to get a connected view of Renaissance drama are advised to take, in sequence, courses 20, 21, and 22.

23. *The Life and Works of Spenser* (69).—The course is for advanced, though not necessarily graduate, students. The *Faerie Queene* and the minor poems; allegory; the poet's versification; his position and significance with respect to mediaevalism, the Renaissance, and especially Elizabethan poetry are considered. Mj. ASSISTANT PROFESSOR KNOTT.

24. *The Life and Works of Wordsworth*.—A more detailed examination of the poet's most significant work, especially the *Prelude* and the lyrical ballads, and their significance with relation to the Romantic Movement. Prerequisite: "English Literature by Periods—E." M. MRS. GRAHAM.

25. *The Works of Robert Browning*.—The work of this "incurable optimist" offers unusual problems in subject-matter and in form. The peculiarities of his style and the varied forms in which he wrote present abundant material for the study of technique and of general principles of literary art.

A. *Studies in the Early Poems*.—This course gives detailed consideration to the poems published before 1868, thus including much of Browning's most characteristic and suggestive work. M.

B. "*The Ring and the Book*" and *Dramas*. M.

ASSISTANT PROFESSOR DAVENPORT.

26. *Studies in the Poetry of Tennyson*.—The course deals with the most significant works of this representative nineteenth-century poet. Especial attention is given to his place in the development of English poetry, to the characteristic qualities of his verse, and to his close relation to the general currents of thought in his time. M. ASSISTANT PROFESSOR DAVENPORT.

27. *Representative English Essayists of the Nineteenth Century*.—An advanced undergraduate study of six essayists, including a brief preliminary discussion of the appearance in England of the essay and its development as a literary form. The work is based upon typical essays of Lamb, DeQuincey, Macaulay, Carlyle, Ruskin, and Arnold. The method of study is the biographical and historical and, to a limited extent, the philosophical. Emphasis is laid upon the intimate relation of literature to the forces of social life. Mj. MRS. GRAHAM.

28. *The Makers of American Literature*.—This course embraces a study of Emerson, Whittier, Longfellow, Lowell, Holmes, and Hawthorne—the representative writers of that period of intellectual activity in New England which roughly corresponds with the first half of the Victorian era. The various ways in which this activity expressed itself—in oratory, scholarship, Unitarianism, transcendentalism, and reform—are incidentally examined in so far as they affected or were affected by these writers. Sufficient attention is given to the general history of American literature to make this period intelligible to the student. Mj. MRS. GRAHAM.

29. *The Short Story in English and American Literature*.—In connection with a brief résumé of the history of the short story in England and America, students will read, critically, a number of representative stories by Irving, Hawthorne, Poe, Dickens, Bret Harte, Henry James, Page, Cable, Stockton, Davis, "O. Henry," Mary E. Wilkins, Hardy, Doyle, Stevenson, Conrad, Kipling, and others. The critical study will be devoted principally to investigation of the methods by which effectiveness is secured. Mj. ASSOCIATE PROFESSOR MARSH.

30. Modern Realistic Fiction.—This course is designed to present the content and method of a typical group of realistic novels. The following works, or their equivalents, will be read: George Eliot's *Silas Marner*, Hardy's *Tess of the D'Urbervilles*, Howells' *A Modern Instance*, Meredith's *The Egoist*, Tolstoi's *Anna Karenina*, Zola's *L'Assommoir*, Frenssen's *Jörn Uhl*, Barrie's *Tommy* and Grizel, Fogazzaro's *The Patriot*, Galsworthy's *Fraternity*. Mj. ASSISTANT PROFESSOR DAVENPORT.

31. Types of Mediaeval Literature: A Literary and Sociological Study.—This course is not a survey of the historical development of mediaeval literature, but a study of characteristic examples of the literature of feudalism in relation to the social and economic background. It attacks the problem of how the literature of the Middle Ages—a period of status based on land—differs from that of recent times—a period of individualism, competition, money economy, and machine industry. Some attention will also be given to the characteristic literary forms. Prerequisite: E and F2 of "English Literature by Periods." Mj. ASSISTANT PROFESSOR DAVENPORT.

32. Contemporary Literature and Current Problems (142B).—This course is designed as an untechnical survey of contemporary novels, plays, and essays that reflect the changing social, political, and ethical conventions of the day. Effort will be made to trace them, as far as possible, to such nineteenth-century influences as Nietzsche, Ibsen, Maeterlinck, Shaw, and the socialist, anarchist, and decadent movements. Particular attention will be paid to the conflict of ideas popularly embraced under the head of "feminism"; to the present resurgence of individualism; to the aesthetic problems of present-day realism. The course will be based upon typical works by such novelists as Bennett, Wells, Galsworthy in England, and Herrick, Edwards, Dreiser in America; by such dramatists as Barker and Houghton; by such essayists as Walter Lippman, Mrs. Gilman, Olive Schreiner, and Ellen Key. Although outlines will be used, anyone entering this course should be capable of forming independent judgments of the works studied. Mj. MRS. GRAHAM.

33. The Irish Literary Revival.—A study in the literature of the modern Celtic revival presupposes some acquaintance with Celtic myth, legend, and romance. The course, therefore, begins with this subject, following with the living folk literature, fairy tales, folk tales and songs, and then passing to the work of the modern poets and dramatists. Yeats, Synge, Hyde, Lady Gregory, James Stephens, AE, George Moore, Lord Dunsany, and other writers will be read. M. ASSISTANT PROFESSOR DAVENPORT.

34. The Principles of Literary Criticism.—This course presents and compares some of the most influential critical tenets; examines the relations of literature to other arts and the support given to criticism by recent studies in the psychology of artistic production. Mj. ASSISTANT PROFESSOR DAVENPORT.

35. Elementary Old English (21).—This course aims (1) to train the student in the translation of simple Old English, and (2) to give him a solid basis in grammar. Incidentally it introduces the student to philological methods and to historical English grammar. Bright's *Anglo-Saxon Reader* is used. Mj. ASSISTANT PROFESSOR HULBERT.

36. Intermediate Old English (22).—In this course the drill begun in course 35 is continued, and in addition Old English meter and poetic style are studied. The poems in Bright's *Reader* and about 500 lines of *Beowulf* are read. Mj. ASSISTANT PROFESSOR HULBERT.

37. Advanced Old English (23).—The remainder of *Beowulf* is studied with reference, not only to its language, but to its stylistic and literary features. Mj. ASSISTANT PROFESSOR HULBERT.

38. Introduction to Chaucer (28).—May be taken by students who have had no training in Middle English. Along with the reading of selected poems there will be study of the main facts regarding Chaucer and his works. Mj. ASSOCIATE PROFESSOR MARSH.

39. English Grammar for Teachers (33).—A much more advanced course than the one numbered 1, page 37, presupposing a fairly good knowledge of the subject. The recommendations of the Joint Committee on Grammatical Nomenclature are embodied. Some stress will be laid on the textbooks available and on the problems with which teachers have to deal. Mj. ASSOCIATE PROFESSOR MARSH.

For other courses for teachers of English, see p. 66.

GENERAL LITERATURE

This Department offers work to two distinct classes of students: (1) those doing graduate work in comparative literature, for whom a knowledge of the original languages and some previous training in literature are indispensable; (2) those doing undergraduate work, who wish to become acquainted with foreign literatures for the purpose of general culture, and for whom a reading knowledge of the original languages, though desirable, is not necessary. The courses presuppose "English I" and "The Development of English Literature" or their equivalent.

1. World Literature for English Readers (1).—This course surveys the literature of the world and notes its influence upon the culture of English-speaking peoples. Moulton's *World Literature* will furnish the point of view and the historic background for the course. This will be supplemented by the reading, wholly or in part, of selected masterpieces, among which will be the five literary Bibles theoretically treated in the textbook—the Holy Bible, Classic Epic and Tragedy, Shakspeare, Dante and Milton, and versions of the story of Faust. There will also be readings in comparative literature, studies in collateral literature, and a survey of strategic points in the development of literature as a science. It is primarily a college course, but it is also adapted to the needs of the general reader. Works not English will be read in translation. Books for the required reading may be found in any well-selected library or may be borrowed from the University by arrangement with the Director of the Libraries. Mj. PROFESSOR MOULTON AND MISS SCHRADER.

2. Ancient Epic and Tragedy for English Readers (3B).—The aim of this course is to present Greek epic and tragedy from a purely literary point of view. It will include a study of the poetic heroes of the Argonautic Expedition and of the Trojan War. The works will be read in translation and in the order of the story sequence rather than in the chronological order of their authorship. Under the myth of the first generation *The Argonauts* of Apollonius, *Medea* of Euripides, and *Jason* of William Morris (a modern reconstruction) will be read. A larger selection of works will be included under the myth of the second generation, including the *Iliad*, the *Odyssey*, and tragedies of Aeschylus, Sophocles, and Euripides that touch the story of the Trojan War. Besides noting the place these works occupy in the progressive development of a story sequence, both epics and tragedies will be studied with reference to structure and general technique. Vergil's dependence upon Homer and his influence upon mediaeval literature will also be noted. Mj. PROFESSOR MOULTON AND MISS SCHRADER.

3. The Literary Study of the (English) Bible (2).—This course is intended for those who teach or expound the Bible and for those who merely read it as a part of universal literature. The aim of the course is: (1) to familiarize the student with the literary forms found in the Scriptures, under the general divisions of Lyric Poetry, History with Epic, Wisdom Literature, Prophecy, and forms of Address; (2) to show how the separate books of the Bible when read in their literary sequence draw together with a literary connection like the unity of a dramatic plot. Moulton's *The Modern Reader's Bible*—in which the books of the Bible with three of the Apocrypha are edited in modern literary form—and Moulton's *The Literary Study of the Bible* are the required texts. Mj. PROFESSOR MOULTON AND MISS SCHRADER.

4. Dante and Milton.—The purpose of this course is to familiarize the student with the special significance of Dante as an interpreter of Mediaeval Catholicism and of Milton as a revealer of Renaissance Protestantism. The

study will include a brief survey of the life and early work of each of the poets, but emphasis will be placed upon the *Divina Commedia* and *Paradise Lost*, as these embody the spirit of progressive civilization. Special attention will be given to the structure of the poems as related to the matter presented; to the aspects of good and evil as interpreting the philosophical thought of Mediaevalism and the Renaissance, and to the elements of creative excellency, which give to both Dante and Milton a place among the supreme poets of the world. For the study of Dante, Plumptre's metrical translation is recommended, but the prose translation of C. E. Norton may be used; for the study of Milton the Cambridge edition of *Milton's Poetical Works* will be used. The required work of the course is based upon matter contained in the texts, but bibliographies are included, and recommended readings are cited to aid the student who desires to supplement the required work with more exhaustive study. Mj. Miss SCHRADER.

5. The Modern Study of Literature.—Aims to treat the whole theory of literature. It presents the morphology, evolution, and criticism of literature and reviews its philosophic and artistic aspects. Its foundation principles are inductive observations with emphasis upon evolutionary processes; its field of view is the ideal conception of the unity of all literature. Moulton's *The Modern Study of Literature* is used as a textbook and guide. Either major may be taken by itself if desired.

A. *The Foundation Principles of the Study of Literature* (40).¹—The design of this course is to grasp the form and structure of literary expression and to define the field and scope of literary activity as seen in the history of world literature. It also presents literature as a mode of philosophy and as a mode of art. The textbook will be supplemented by the reading of selected works which will illustrate and explain the various subjects treated in the course. Mj.

B. *Literary Criticism and Theory of Interpretation* (41).¹—This course will make clear the traditional confusion and the modern reconstruction of literary criticism. After the four leading types of criticism have been mastered, the course will fall into two parts: (1) an exposition of the criticism of interpretation; and (2) a formulation of the leading principles of speculative criticism. As in course A, the textbook will be supplemented by selections from Shakspeare and other masters of literature. Mj.

PROFESSOR MOULTON AND MISS SCHRADER.

6. Studies in Modern Drama (10).—In the drama produced in England and on the continent since Ibsen began to write, opportunity is offered for the study of some of the most significant and representative literature of our time. This course offers plays by Ibsen, Bjornsen, Strindberg, Sudermann, Hauptmann, D'Annunzio, Tchekhof, Phillips, Jones, Pinero, Shaw, Galsworthy, Moody, Rostand, Echegaray, Yeats, Synge, and Maeterlinck. Mj. ASSISTANT PROFESSOR DAVENPORT.

7. German Literature (in English).—This course attempts a survey of the principal movements in German literature from its first appearance to the present day. Representative authors are studied and constant attention is given to the connection of social and intellectual life with German poetry. Mj. Dr. PHILLIPSON.

The Literary Relations between England and Germany in the Eighteenth Century.—(Cf. description under German 18.) If taken in this Department, only translations of German authors will be used. Mj. ASSISTANT PROFESSOR VON NOÉ.

The Literary Relations between France and Germany in the Eighteenth Century.—(Cf. description under German 19.) If taken in this Department, only translations of French and German authors will be used. Mj. ASSISTANT PROFESSOR VON NOÉ.

Literature and History of the Arabs.—(Cf. description under Oriental Languages and Literatures 12.) Mj. ASSISTANT PROFESSOR SPRENGLING.

¹ Registrations will be accepted after September 1, 1917.

MATHEMATICS

ELEMENTARY

1. Complete Arithmetic.—This course is intended as a review of the general principles of arithmetic. While serving the student, it will be helpful to grade-teachers preparing for examination. Part I treats of general number, the four fundamental operations, factoring, fractions, and practical applications of denominate numbers. Part II drills upon the applications of percentage and actual methods of modern business. Part III considers ratio and proportion, powers and roots, mensuration, and the metric system. Numerous problems are given to illustrate all points. [This course does not command credit; the charge for it is \$16.00 regardless of combination.] ASSOCIATE PROFESSOR LAVES.

ACADEMY

2. Elementary Algebra.—

A. This course is designed for beginners and deals in a very simple way with the elementary principles of algebra. It will prove especially helpful to high-school students who have found the subject a difficult one, since special emphasis is laid upon type-forms and modern methods of instruction. The principal topics discussed are: the four fundamental operations of algebra, solution of linear equations and of systems of simultaneous linear equations, together with an introduction to the subject of graphs. [This course by itself carries no credit, but with "B" commands 1 unit.] M.

B. This course presupposes A and deals with factoring, fractional and literal equations, involution, evolution, theory of exponents, radicals, graphics, quadratics involving one unknown quantity and simultaneous quadratic equations. Mj.

C (00). Continues B, taking up the general properties of quadratic equations, the binomial theorem, imaginary and complex numbers, an elementary study of determinants up to the fourth order, and ends with a general theory of equations. Mj.

ASSOCIATE PROFESSOR LAVES.

3. Plane Geometry.—

A(01).—Embraces a study of Books I and II. The theory is well illustrated by numerous original exercises. Mj.

B(02).—Continues A and covers Books III–VI. Mj.

ASSOCIATE PROFESSOR LAVES.

Descriptive Geometry.—A series of four Majors. (Cf. description under Drawing C, p. 72.) MR. FERSON.

COLLEGE

4. Solid Geometry (0).—Here, as in plane geometry, the main emphasis is laid on exercises calling for original work. Mj. ASSOCIATE PROFESSOR LAVES.

5. Plane Trigonometry (1).—Theory and practice in the solution of triangles by natural functions and logarithms. Applications to simple problems of surveying, physics, and astronomy. Properties of the trigonometric functions treated analytically and graphically. Applications to simple harmonic and wave motion. Mj. PROFESSOR WILCZYNSKI.

Spherical Trigonometry with Applications to Astronomy and Geodesy.—(Cf. description under Astronomy 2.) Mj. ASSOCIATE PROFESSOR LAVES.

6. College Algebra (2).—The notion of variable and function and their geometric representation. Variation. Equations of the first degree and determinants. Quadratic equations, complex numbers, and theory of equations. Fractional and negative exponents, exponentials, and logarithms. Mathematical induction, binomial theorem, and progressions. Limits and infinite series. Undetermined coefficients, permutations, combinations, and probability. Mj. PROFESSOR WILCZYNSKI.

7. Plane Analytic Geometry (3).—Rectangular, oblique, and polar coordinates in the plane. The relation between a curve and its equation. The algebra of a variable pair of numbers and the geometry of a moving point. Specific applications to the properties of straight lines, circles, conic sections, and certain other plane curves. Extension of the most fundamental of these notions to space. Mj. PROFESSOR WILCZYNSKI.

8. Solid Analytic Geometry (31).—The co-ordinate systems in space. Lines, planes, and quadric surfaces. General properties of surfaces and space curves. (Informal.) Mj. PROFESSOR WILCZYNSKI.

9. Calculus with Applications.—This is designed for students intending to pursue the study of pure or applied mathematics as well as for those who are actively engaged in work which presupposes a knowledge of calculus. An important feature throughout is the large number of practical applications. In dynamics, physics, mechanical and electrical engineering a working knowledge of the calculus is essential. Therefore in the exposition of the theory dynamical, physical, and geometrical illustrations are freely used. It is the aim to acquaint the student with the kind of mathematics which he will find useful and to cultivate the power of applying the principles of the calculus, at first to simple, then to more difficult, practical problems. The course is divided into three parts; for the first of them, A, a knowledge of solid geometry, trigonometry, college algebra, and plane analytic geometry is requisite.

A (18). This deals mainly with the differential calculus and applications. Mj.

B (19). Chief attention is given to the integral calculus and applications. Mj.

C (20). This provides: (1) a continuation of the treatment of several topics begun in A and B; (2) applications of the calculus; (3) a brief treatment of differential equations. Mj.

PROFESSOR WILCZYNSKI.

10. Theory of Equations (22).—The fundamental properties of algebraic equations, their transformation, and the approximate determination of their roots. Determinants, symmetric functions, and invariants. (Informal.) Mj. PROFESSOR WILCZYNSKI.

Analytical Mechanics.—(Cf. description under Astronomy 3.) DMj. ASSOCIATE PROFESSOR LAVES.

11. Differential Equations (47).—Discussion of problems which lead to differential equations and of the standard methods for their solution. (Informal.) Mj. or DMj. PROFESSOR WILCZYNSKI.

12. Introduction to Analysis.—A somewhat critical study of the fundamental elementary notions of Analysis. Hardy's *A Course in Pure Mathematics*. (Informal.) DMj. PROFESSOR MOORE.

GRADUATE

NOTE.—A student must consult the instructor before registering for any one of the following courses.

Advanced Mechanics.—(Cf. description under Astronomy 4.) DMj. ASSOCIATE PROFESSOR LAVES.

13. Projective Geometry (29, 30).—Veblen and Young's *Projective Geometry*. (Informal.) DMj. PROFESSOR MOORE.

14. Theory of Functions of a Real Variable (101).—Hobson's treatise on the subject will be used. (Informal.) DMj. PROFESSOR MOORE.

15. Theory of Functions of a Complex Variable (121).—Burkhardt's *Einführung in die Theorie der analytischen Funktionen*. (Informal.) DMj. PROFESSOR MOORE.

16. General Analysis.—A study of classes of functions of a general variable, based on Moore's *Introduction to a Form of General Analysis*. Prerequisite: a knowledge of the theories of convergent series and of continuous functions. (Informal.) Mj. or DMj. PROFESSOR MOORE.

The History of Astronomy.—(Cf. description under Astronomy 6.) Mj. PROFESSOR MYERS.

For courses for teachers of Mathematics, see p. 68.

Members of the Mathematical Department will endeavor to arrange informal courses for students who are able to do work of an advanced nature, whenever practicable.

ASTRONOMY

1. Descriptive Astronomy (1).—An elementary general culture course designed: (1) to furnish an idea of the principles, methods, and results of the science; (2) to show the steps by which the remarkable achievements in it have been attained; and (3) to unfold that extended horizon which astronomy has laid open. This work covers the recent investigations respecting the origin and development of the solar system. Moulton's *Introduction to Astronomy* (rev. ed.). (Informal.) Mj. PROFESSOR MOULTON OR ASSISTANT PROFESSOR MACMILLAN.

2. Spherical Trigonometry with Applications to Astronomy and Geodesy (2).—Through this course the student is introduced to the wide realm of geodesy and positional astronomy. Prerequisite: Plane Trigonometry. Mj. ASSOCIATE PROFESSOR LAVES.

3. Analytical Mechanics.—

A (5). An elementary course aiming to give the student a firm grasp of the physical principles involved, leaving aside at first all mathematical developments which do not contribute directly to this end. By the solution of graded problems the student is taught to use his knowledge of mathematics in the solution of concrete problems of nature. The course includes a short introduction to the underlying principles of the motion of a particle. The main body is devoted to the statics of a system of particles and of rigid bodies. Prerequisite: Differential and Integral Calculus. Mj.

B (6). Continues A and deals with the dynamics of a particle and of a system of particles. The motion of rigid bodies, together with a short study of generalized co-ordinates, completes the course. Mj.

ASSOCIATE PROFESSOR LAVES.

4. Advanced Mechanics.—

A. *The Dynamics of a System of Particles.*—Free and constrained motion of the material point. General principles bearing on the dynamics of systems of particles. Lagrange's generalized co-ordinates, the canonical co-ordinates of Hamilton and Jacobi, and Jacobi's partial differential equations, additions of Donkin and A. Mayer. Mj.

B. *The Dynamics of Rigid Bodies.*—System of vectors, distribution of mass, instantaneous motion; dynamics of rotating bodies. Mj.

ASSOCIATE PROFESSOR LAVES.

5. Celestial Mechanics (22, 23).—A treatment of the dynamics of the solar system, including the contraction theory of the heat of the sun, the attraction of bodies, the two-body problem, determination of orbits, the general integrals of motion, the three-body problem, and perturbations. Moulton's *Introduction to Celestial Mechanics*. Prerequisite: Differential and Integral Calculus. (Informal.) DMj. PROFESSOR MOULTON OR ASSISTANT PROFESSOR MACMILLAN.

6. The History of Astronomy.—This is a culture course on the subject for persons who desire to familiarize themselves with the scientific ideas, methods, and results that have determined scientific progress down to recent times. The history of no science so fully exhibits the complete scientific method as does the history of this oldest, most complete, and most exact of all the sciences. A careful study of it may well constitute a part of a liberal education. It is both stimulating and directly helpful to teachers of high-school science and mathematics. A real basis for much of the high-school mathematics is furnished by supplying the astronomical setting from which it sprang. Mj. PROFESSOR MYERS.

PHYSICS

1. Elementary Physics.—

A. *Mechanics, Molecular Physics, and Heat* (1).—This course is designed to cover the first half-year's work in elementary physics as given in high schools and academies. A text is followed rather closely but the assignments in it are supplemented by new problems and references to other textbooks. The apparatus for the required laboratory work, together with detailed instructions for setting it up and performing the experiments, is packed in a special case and shipped to the student. Reports on both the reading and laboratory work are submitted by the student for approval or correction. A deposit of \$15.00 is required for the loan of the apparatus. This will be refunded when the same is returned intact, less expressage and \$3.00, the loan fee. Mj.

B. *Electricity, Magnetism, Sound, and Light* (2).—A continuation of course A and the equivalent of the second half-year of high-school physics. The plan for text and laboratory work laid down under course A is followed in this course. A deposit of \$15.00 is required for the loan of apparatus. This will be refunded when the same is returned intact, less expressage and \$3.00, the loan fee. Mj.

ASSISTANT PROFESSOR MOORE.

NOTE.—Courses A and B together constitute the admission unit in physics.

CHEMISTRY

1. General Inorganic Chemistry.—The two Majors into which the work is divided furnish a review and a continuation of elementary chemistry and form the link between the average high-school course in chemistry and "Qualitative Analysis." In view of the fact that different students will have different degrees of preparation, the number of lessons may be varied by omitting such parts of the subject as the student may already have mastered; in this way the work will be adapted to individual needs, and waste of time and effort will be avoided. Students must provide themselves with a balance sensitive to one centigram, with weights 50 gm. to 0.01 gm., and must have access, at least, to a barometer. This apparatus cannot be loaned. The rest of the apparatus needed for either course A or course B will be loaned for a deposit of \$15.00. The chemicals necessary for course A will be loaned for a deposit of \$10.00, and for course B for \$15.00. When the apparatus and chemicals are returned, the deposits will be refunded, less the cost of checking, non-returnable and missing parts, breakage, carrying charges, and a fee of \$1.50 for the use of the apparatus in each Major, \$2.50 for the chemicals in course A, and \$3.50 for those in course B.

A (2S). This course includes a study of the principal non-metallic elements and their chief compounds. It includes also the study of the laws and principles of the science and their use in explanation of chemical phenomena. The laboratory work, which is an important part of the course, affords opportunity for gaining direct knowledge of the different substances, their modes of manufacture, and their properties. In the choice of illustrations preference is given to the industrial and other applications of chemistry. Prerequisite: a course in inorganic chemistry as ordinarily given in high schools. Mj.

B (3S). Continues course A and deals chiefly with the metallic elements. Mj.

ASSISTANT PROFESSOR SCHLESINGER.

2. Qualitative Analysis.—The second year of college work in chemistry includes two Majors of Qualitative Analysis ("A" and "B" below) and "Elementary Organic Chemistry." "Qualitative Analysis—C" is a graduate course and is taken usually after work in Quantitative Analysis. The apparatus and the reagents for any one of the following 3 Majors will be loaned for a deposit

of \$30.00. If only the set of sixty glass stoppered bottles, required for the necessary solutions, is needed, they will be loaned for a deposit of \$6.00. The deposit will be refunded when the apparatus is returned, less deductions for the loan (\$1.50 for the apparatus, \$3.50 for the chemicals, \$0.50 for the bottles), checking, carrying charges, and broken and missing parts. An extra charge of \$1.00 per Major is made for "unknowns."

A (6). This course aims to present the fundamental methods of qualitative analysis. The analytical reactions of the most important metals and acids are studied. This is done in such a way that the student learns the art of performing tests and comes to understand how the methods of separation and detection are based upon a judicious selection and arrangement of these tests. During the course each student analyzes a number of simple salts and a few mixtures which contain, in each case, only the metals or acids of a single group. Qualitative analysis has been modified by the influence of physical chemistry. The theories of solution and of electrolytic dissociation and the study of problems in chemical equilibrium have all contributed to furnish analytical chemistry with a scientific foundation which it never possessed before. Course A is planned to develop the subject with this scientific, theoretical foundation and at the same time to give a thorough foundation in *systematic analysis*. Prerequisite: "General Inorganic Chemistry" (A and B) or the equivalent. Mj.

B (7). Continues course A and gives the student practice in the *systematic analysis* of simple salts, simple mixtures, and, finally, of rather difficult mixtures in which the metals and acids are to be determined. Fifteen to twenty "unknowns" will be analyzed. The main object of the course is to develop *accuracy* and *reliability*, and these must be demonstrated in the final analyses to secure credit. Mj.

C (10). Continues course B and requires the analysis of complicated mixtures, and especially the analysis of minerals and commercial products. Mj.

PROFESSOR STIEGLITZ.

3. Elementary Organic Chemistry (4).—This course is taken in the second year of college work and presents in outline a survey of the fundamental principles and of the main classes of organic compounds. For the convenience of the beginner the theoretical presentation follows in large measure the development given in one of the best college texts, but it is brought up to date, and by numerous supplementary discussions it indicates in perspective the lines of thought and development which would be followed in a more advanced study of the subject. The chemical discussion is accompanied by, and in large measure is based on, experimental work illustrating the principles presented and the chemical behavior of the important classes of organic compounds studied. On account of the inflammable nature and the high volatility of many of the compounds used there is a greater element of danger in this course than in the ordinary chemistry courses, due to the risk of fire and of explosions from faulty or careless manipulation. Directions for avoiding accidents are made as explicit as possible, but the course should be taken only by those who through experience as teachers or as workers in commercial laboratories have confidence in their own carefulness. The *apparatus* for this course will be lent for a deposit of \$25 or \$20 according to the completeness of the outfit required. When the outfit is returned the deposit will be refunded less the cost of non-returnable, broken, or missing parts, packing, carrying, and inspection charges, and a loan fee of \$2.50. Most of the *reagents* required will be found in the average laboratory, but a number of special organic and inorganic chemicals are required which will not usually be at hand. These may be ordered from a supply house or they may be borrowed from the University for a deposit of \$5.00. When they are returned, as much of this deposit will be refunded as is not required to replace the material that has been used and any packing and carrying charges that have been paid by the University. Prerequisite: courses 1 (A and B) and 2 (A and B) or equivalents. Mj. PROFESSOR STIEGLITZ.

GEOLOGY AND PALEONTOLOGY

ACADEMY

1. Physical Geography.—This course is designed especially for high-school students or those desiring a course equivalent to that given in a first-class high school. The lessons treat of the form of the earth and its solar relationships; the work of running water, underground water, waves, glaciers, and the atmosphere as agencies which are at present, as in the past, modifying the earth's surface; and the phenomena of vulcanism and movements of the earth's crust. Some attention is paid to climate. Mj. ASSISTANT PROFESSOR BRETZ.

COLLEGE

2. Physiography (1).—The course embraces the following general subjects: (1) the form of the earth as a whole and its relation to other members of the solar system, particularly the sun and the moon, with the consequent changes in the length of day and night and the seasons; (2) the atmosphere—its constitution, temperature, pressure and movements, weather changes and climate; (3) the ocean—its constitution, temperature, movements, geologic activities, coastline phenomena; (4) the land—the geologic processes by which the earth's topography has been chiefly determined and the varied topographic types which result therefrom, including the study of the origin and development of plains, plateaus, river valleys, mountains, volcanic cones, islands, and seashore features. The effects of man's physical environment upon his distribution, his habits, and his occupations will be continually emphasized. Topographic maps and folios will be studied, and the maps will be used in connection with land forms. The rocks and minerals forming the earth's crust will be treated as fully as the course permits. The last lessons will give the student some opportunity to do individual field work. Laboratory methods will receive attention throughout the course. The course is suited to the needs of those who teach physical geography and physiography in preparatory schools. Mj. ASSISTANT PROFESSOR BRETZ.

3. General Geology (5).—This course treats of the leading facts and principles of geology and the more important events of geological history. It embraces the following general subjects: (1) the materials of the earth; (2) physiographic geology—the work of atmosphere, running water, glaciers, waves and currents, and organic agencies treated in a manner to supplement the physiographic studies of course 2; (3) vulcanic, diastrophic, and structural geology; (4) elementary studies in the interpretation of topographic and geologic maps; (5) historical geology—a systematic study of the development of the series of geological formations, with special reference to the evolution of the North American continent and the historical development of life forms; (6) economic geology; (7) a special general geological report on a particular area in the student's own vicinity. This course is adapted to the needs of teachers in high schools and academies, to those interested in economic geology, and also to students not intending to specialize in geology. Course 2, while desirable, is not a prerequisite. Mj. ASSISTANT PROFESSOR BRETZ.

4. Interpretation of Topographic and Geologic Maps.—This course is intended especially to introduce teachers of high-school, normal-school, and college grade to modern methods of laboratory work in physiography and general geology. It may also be taken by teachers of nature-study in the grades and by those interested in regional physiographic problems. It will serve as a basis for the study of the physiographic features of widely separated regions in the United States and as a supplement to the physiographic studies of courses 2 and 3. The course assumes that the successful teaching of physiography must be accompanied by a clear understanding of topographic maps and by their continued use. It is based on topographic maps of the United States Geological Survey, and a guide to their interpretation, and includes: (1) general principles in the interpretation of topographic maps; (2) topographic forms resulting from the work of

wind, ground water, running water, glaciers, oceans and lakes, diastrophic movements, and vulcanism; (3) interpretation of the physiographic history of specially selected regions, on the basis of topographic maps; and (4) enough work with geologic maps to show something of the connection between geologic structure and topography. Prerequisite: a knowledge of physiography equivalent to that afforded by either course 2 or 3. M. PROFESSOR TROWBRIDGE.

5. Elementary Mineralogy (3).—A course intended to familiarize students with the common minerals. A large part of the work will consist in determining, principally by means of their physical properties—streak, hardness, cleavage, specific gravity, etc.—the 85 or 90 specimens which will be furnished. The origin, occurrence, and economic uses of each mineral also will be studied. The work on minerals will be supplemented by a brief discussion of the rocks, their modes of formation, occurrence, and classification. The course is intended for beginners, and no previous geological training is required, but an understanding of a few of the fundamental principles of chemistry is highly desirable. The streak plate and the set of specimens will be furnished for a fee of \$4.00. A small hand lens and a specific-gravity balance will be very useful and if possible should be procured by the student. The set of minerals becomes the property of the student and will serve for future reference or as a nucleus for a collection. Mj. ASSISTANT PROFESSOR BROKAW.

6. Economic Geology (2).—This course is designed to give a general knowledge of the principles governing the formation and occurrence of the more important ores and non-metalliferous deposits, and of the conditions, commercial and otherwise, which limit their exploitation. It covers the study of: (1) structural materials—including building stones, clays, limes, mortars, and cements; (2) fuels—including coal, petroleum, and natural gas; (3) principles controlling the deposition of metalliferous ores—including the nature and genesis of ores, the forms of ore bodies, and their relations to the structural features of the containing rocks, the formation of cavities in rocks, underground waters, their composition, circulation, etc.; (4) ores of metals—including iron, copper, lead, zinc, gold, and silver. No attempt is made to cover the entire field, but typical districts or occurrences are studied in each case. Incidentally it is hoped the student will learn how to study a district independently and to that end he will be put in touch with the general literature of the subject. The student is expected to be familiar with the common rocks and minerals. Prerequisite: elementary chemistry and course 3 or a practical knowledge of geology gained by experience in mining, or the like. Mj. DR. STEPHENSON.

ZOÖLOGY

1. Elementary Zoölogy (1).—An introduction to the general principles and concepts of zoölogy. The laboratory work includes (a) observations, dissections, and experiments upon unicellular animals (*Amoeba* and *Paramecium*); (b) a higher invertebrate type such as the earthworm and crayfish; (c) a vertebrate type (the frog); (d) a study of embryology and of cell division. A fee of \$5.00 will be charged for the materials furnished and the loan of slides. A compound microscope magnifying 400 diameters, a hand lens, and a set of dissecting instruments will be needed. The cost of instruments (exclusive of microscope and hand lens) need not exceed \$3.00. Mj. PROFESSOR NEWMAN.

2. Elementary Entomology (4).—The course opens up the large field of general entomology, and at the same time furnishes thorough training in the elementary principles of the science. A type insect is studied intensively, and representatives of other groups are compared with the type. The student thus becomes familiar with the taxonomic structures and terminology for the same, a knowledge of which is essential in all identification work. Instruction is given concerning methods of preserving and pinning insects for collections. Students already interested in some particular insect group, or in some special phase of

entomology, will be given assistance in securing and identifying material, will be supplied with special references to literature, and, if they wish, will be put in touch with others working along the same line. The expense for books will be between \$5 and \$10, and for the hand lens which the student must have about \$2.50. A low-power compound microscope or a dissecting microscope will be helpful but not essential. Prerequisite: desirably a high-school course in biology, but mature students will be able to acquire all the necessary preliminary knowledge from the reading that will be assigned. Mj. DR. WELLS.

3. Evolution and Heredity (introductory course) (5).—The course gives an unprejudiced treatment of one of the central problems of biology and is intended to serve as an introduction to more advanced special work in zoölogy and other biological branches. Yet the general student will find the work absorbingly interesting if he is prepared to read widely and to form independent judgments as to the validity of arguments and evidence. Among the topics discussed are: (1) brief survey of animal groups in the order of increasing complexity; (2) the idea of a phylogenetic tree; (3) evidences of evolution from comparative anatomy, embryology, paleontology, and geographical distribution; (4) the ancestry of man; (5) the history of the evolution idea from the Greeks to Darwin; (6) Darwinism—a critical discussion; (7) post-Darwinian hypotheses as to the causes of evolution; (8) variation and heredity as prime factors of evolution; (9) variations: size, kind, causes; (10) the hereditability of variations; (11) the physical basis of heredity; (12) Mendelian heredity; (13) the facts of inheritance in man; (14) eugenic aspects of evolution and heredity. Mj. PROFESSOR NEWMAN.

4. Genetics and Eugenics.—This course has no technical prerequisite, but it may advantageously follow course 3, since it treats fully certain aspects that could only be outlined in that course. Students are directed to the best and most recent literature on the subject available. Among the topics dealt with are: (1) the facts and factors of development; (2) the cellular basis of heredity; (3) the biology of sex and the mechanics of sex determination; (4) the inheritance of acquired characteristics; (5) the most recent developments of Mendelian heredity; (6) heredity of physical and mental traits in man; (7) the principles of eugenics; (8) parenthood and race culture; (9) eugenic programs; (10) eugenic legislation. Mj. PROFESSOR NEWMAN.

5. General Morphology and Natural History of the Invertebrates.—

A. Protozoa, Porifera, Coelenterata, Platyhelminthes, Nemathelminthes, and Echinodermata (15).—An introduction to the study of invertebrate animals. The work includes laboratory study of the anatomy, physiology, and, as far as possible, of the life-history of typical forms, together with assigned reading. Special emphasis is laid on the economic importance of the animals considered. The fundamental principles of comparative morphology are kept in view throughout the course. In addition to the study of the material furnished (about thirteen forms) the student will be expected to acquaint himself with some of the typical invertebrates of his own locality, and directions for the collection and determination of such forms will be given. The securing of the protozoa studied in the course is a part of the laboratory work, and since protozoa must be cultivated in infusions, which require from one to three or four weeks, the student should not delay registration until he is ready to begin work. Instructions for making infusions will be sent with the first lessons. Fee for material and loan of more difficult preparations, \$5.00. Mj.

B. Mollusca, Annelida, and Arthropoda (16).—Continues A, and completes the study of the invertebrates, including the most interesting group, the insects. About twelve forms, including some especially prepared, are furnished. Dissection of the clam, snail, squid, earthworm, clam-worm, lobster, spider, grasshopper, and several other insects, and study of habits, physiology, and life-histories of these forms are required. The fee for materials and the loan of the more difficult preparations, including slides illustrating adaptation among insects, is \$6.25. Mj.

DR. HYMAN.

6. Vertebrate Zoölogy (17).—An introduction to the study of the vertebrates and their relatives. The laboratory work includes dissection of the dogfish, turtle, and cat, and the preparation and study of the skeletons of several animals. Material with circulatory systems injected will be furnished, and in addition the student must provide two or three easily obtainable forms. The work is strictly comparative, i.e., each system of organs is taken up and its progressive change from the lowest to the highest forms is followed. The cost of dissecting instruments and the books will be about \$15.00. Fee for materials, \$6.00. Prerequisite: course 1 or its equivalent. Mj. DR. HYMAN.

7. Vertebrate Embryology (18).—A course indispensable for the teacher of zoölogy and fundamentally important to all who wish to understand the origin and development of the human structure. The study includes (a) laboratory work on the development of the chick and the pig, dissection of pig embryos and of a pregnant pig uterus; (b) assigned readings on the development and structure of the sexual cells, fertilization, early development of vertebrates in general, and of the chick and mammals, including man, in particular; (c) formation of embryonic membranes; human membranes and placenta, later development of various systems, especially the nervous system, the alimentary canal, the circulatory system, and the urino-genital system. The student must provide, if possible, living chick embryos. A compound microscope, magnifying 200 diameters, a dissecting microscope (if not obtainable, a good hand lens may be substituted), and a few dissecting instruments are required. The deposit for the loan of the necessary slides and for the materials furnished is \$10.00. When the slides are returned this deposit, less \$3.00, will be refunded. Prerequisite: course 1 or its equivalent and desirably "Vertebrate Zoölogy." Mj. DR. HYMAN.

8. Elementary Animal Ecology.—Ecology treats of the relations of organisms to their environment. This relation is illustrated by the reactions of the animals to the environmental factors, such as light, temperature, moisture. The reactions, in turn, determine the distribution of the animals. This course will help the student to become acquainted with the great variety of animal forms that he will find existing in his own locality. He will become familiar with the habits of the many species of animals and will learn how, when, and where to find them. At the same time he will be taught how to collect, preserve, and identify the species that he finds. Assistance by means of written directions and outlines and by suggested and required reading makes up the formal part of the course. The expense for books and apparatus will be about \$5.00. (Informal.) Mj. DR. WELLS.

9. Economic Zoölogy.—In this course the student is introduced to the different animal groups from the economic point of view. The collateral reading and formal lessons are planned so as to build upon previous morphological knowledge of animals a knowledge of the importance of each group in the economy of man. Thus the animals that furnish food, that destroy crops, that carry and produce disease, etc., are taken up in turn. The course is arranged so that it may be adapted to the region in which the student lives, and thus he may make a particular study of the economic forms in his own locality. This study will form an illustrative basis for the study of groups in other localities and countries. The methods of study will combine those of ecology, physiology, and general life-history work. Only students who have completed courses in the morphology of the invertebrates and the lower vertebrates will be admitted. The total expense for books and apparatus will be about \$10.00. The materials required will differ in individual cases. Mj. DR. WELLS.

10. Advanced Animal Ecology (52).—This course is designed primarily for students who have taken courses in animal ecology in residence. It consists largely of definite systematic field work which may mean work on some ecological problem. All the animals of certain habitats will be studied in relation to each other and to the environmental conditions with which they come in contact. Simple analyses of environmental factors may be attempted in some cases. The student must consult the instructor before registering. (Informal.) Mj. DR. WELLS.

11. Graduate Reading in Zoölogy.—This course is planned to serve the function of a seminar course in residence. Selected reading along different lines in zoölogy or general biology will be planned by the instructor, and topics for written theses and criticisms will be assigned. The following seminar courses will serve as a basis of choice: "Problems in Morphology and Phylogeny"; "Problems in Genetics and Experimental Evolution"; "The Biology of Sex"; "Experimental Embryology." If the student has a particular interest in some field not included under these heads, it may be possible to lay out a course of reading with theses. Prerequisite: at least two years of college zoölogy or its equivalent. (Informal.) Mj. PROFESSOR NEWMAN.

PHYSIOLOGY

1. Introductory Physiology.—The object is to develop an appreciation of the human body. This necessitates a knowledge of its structure and the work of its parts separately and as a whole. Knowledge of this kind is a necessary foundation for advanced study and should be the possession of every intelligent person, for without it effective co-operation in the modern methods of healing and preventing disease, as practiced by physicians, is impossible. A further use of physiological facts is their application to methods employed to solve many social problems of today. To teachers such knowledge is especially valuable. It enables them to use and conserve the bodily powers both of themselves and of their pupils and to analyze intelligently deficiencies exhibited by their pupils and so to make proper adjustments.

A (1). This is essentially a summary of the history of the processes by which food gets into the blood. In the *textbook work*, after stating the point of view from which the subject is to be attacked, the following topics are discussed: (1) life—theories advanced to explain its nature, conditions necessary for its existence; (2) protoplasm, cells, tissues, organs and their relations and, incidentally, the subject of "division of labor"; (3) blood—its structure, components, and use; (4) respiration; (5) digestion and digestive fluids; (6) secretion and absorption. In the *laboratory work*, which will require a microscope for a short time (two weeks or so), directions will be given for the study of: (1) blood; (2) properties of foods; (3) the changes which food undergoes under the action of the various digestive fluids. Some knowledge of chemistry is essential. The requisite laboratory equipment and materials will be loaned for a deposit of \$15.00. Mj.

B (2). Continuing A, study is made of: (1) how the blood with its acquired foods is distributed throughout the body (circulation); (2) how the lymph gets to the cells; (3) history of food in the body cells—fats, glycogen, muscle, nerve, the various tissues, their physiology and metabolism, are discussed; (4) excretion; (5) animal heat. Directions are given for making the necessary experiments to illustrate physiological methods and the physiology of the organs of circulation, muscle, and nerve. The requisite laboratory equipment will be loaned for a deposit of \$15.00. Mj.

C (3). Continuing B, study is made of the physiology of the brain, cord, and senses. The course aims also to give general acquaintance with the structure of the central nervous system. Known facts in its physiology are discussed, and so far as possible the methods by which these facts have been ascertained are explained. The main facts of the anatomy and physiology of the brain, eye, ear, and other sense organs are brought out through dissection, for which full directions are furnished. Mj.

ASSISTANT PROFESSOR LINGLE.

NOTE.—The deposit for either A or B will be refunded when the set of apparatus is returned, less charges for breakage, expressage, and a loan fee of \$3.00.

BOTANY

1. General Morphology of the Algae and Fungi (7).—This course consists of twelve exercises covering the ground of the laboratory work of the twelve weeks' course given at the University. The fifty types studied represent all the main groups of algae and fungi. In connection with a study of the structure, development, and relationships of the various forms, the principal problems considered are: (1) the evolution of the plant body, (2) the origin and evolution of sex, and (3) parasitism, saprophytism, and symbiosis. This is pre-eminently a course for beginners, but it is also adapted to the needs of teachers who, though acquainted with the older style of botany, desire an introduction to the more modern phases of the subject. The material in many of the types is sufficient for a class of eight or ten students. An additional fee of \$2.50 is charged for the material and the loan of preparations. The applicant must have access to a compound microscope with a low- and a high-power objective, the latter being a $\frac{1}{2}$, a $\frac{1}{4}$, or a $\frac{1}{8}$, preferably a $\frac{1}{4}$. Mj. PROFESSOR CHAMBERLAIN.

2. General Morphology of the Bryophytes and Pteridophytes (8).—A course similar to the one on algae and fungi and requiring that course or its equivalent as a prerequisite. The structure, life-histories, and relationships of the liverworts, mosses, and ferns are studied in characteristic types. The principal problems considered are: (1) the evolution of the sporophyte, (2) the reduction of the gametophyte, (3) heterospory, (4) alternation of generations, and (5) an introduction to modern phases of vascular anatomy. As in course 1, a compound microscope and skilfully stained preparations, involving a knowledge of microtechnique, are needed. Arrangements have been made whereby a limited number may secure the material and a loan of the necessary preparations for \$5.00. No one should register without consulting the instructor. Mj. PROFESSOR CHAMBERLAIN.

3. General Morphology of the Gymnosperms and Angiosperms (9).—A course similar to the two preceding courses and requiring both of them (or their equivalent) as a prerequisite. Aside from a study of the structure and development of typical forms the most important features of this course are: a study of vascular anatomy, floral development, spermatogenesis, oögenesis, fertilization, embryology, karyokinesis, and a brief survey of Engler's scheme of classification. A compound microscope is needed, as in courses 1 and 2. No one should register without consulting the instructor. Fee for material and the loan of the more difficult preparations, \$5.00. Mj. PROFESSOR CHAMBERLAIN.

NOTE.—Courses 1, 2, and 3 are designed to give the student a comprehensive view of the structure, development, relationships, and problems of the plant kingdom. These courses form the necessary foundation for all advanced work, whether the advanced work be morphology, physiology, ecology, or taxonomy. They are required of all who make botany their Major subject for the Bachelor's degree, and are required of all who make botany either a Major or Minor for any higher degree. The development of a clear, bold style of scientific drawing receives attention in all of these courses.

4. Elementary Plant Physiology (2).—This course aims to give the student a general knowledge of the life-processes of higher plants and is introductory to the advanced courses in the subject given in residence. The work will consist of experiments illustrating the different topics, together with assigned reading in a standard textbook. It is adequate to meet the needs of high-school teachers. For the experimental work little more apparatus will be needed than that found in the physical and chemical laboratories of the average high school. A list of required articles will be furnished on application. Reports of both reading and experiments will be called for and will be returned with corrections. Anyone registering should realize that serious difficulties will be encountered unless some facilities for growing plants are at hand. This difficulty can be met by doing the work during the summer months. The student must consult the instructor before registering. Mj. ASSOCIATE PROFESSOR CROCKER.

5. Elementary Plant Ecology (3).—This course covers essentially the same ground as Coulter's *Plant Relations*, and does not necessarily require previous

botanical training, though some work in plant analysis and in the study of plant structures is highly desirable. The object of the course is to present to the student the factors which influence the functions, form, and distribution of the common plants of his neighborhood. At first the different forms of leaves, stems, and roots are studied; then the plant is taken as a whole with respect to the advantages it possesses in the struggle for existence because of a particular structure—leaf, root, or stem. Under the subject of stems the identification of the common trees is required. The work may be carried on chiefly out of doors, and no microscope is needed. Mj. DR. FULLER.

6. Introduction to the Principles of Plant Production (24).—This is chiefly a reading course of general nature dealing with the main physiological, educational, and economic factors influencing plant production in the United States. Several phases of the work involve simple experiments, but these call for little apparatus. Some of the topics considered are: (1) a brief history of our knowledge of plant nutrition; (2) soils as influencing plant growth and production; (3) seeds and germination of seeds of economic plants and weeds; (4) water relations of plants; (5) synthesis of foods and their uses in plants; (6) reproduction and fertilization and physiology of budding and grafting. On the educational and economic side a brief history is given of the development of agricultural colleges, experiment stations, and extension work in the United States, especially the impetus given in these lines by national acts (Morrill, Hatch, and Adams acts and the Smith-Lever bill) and by the work of the General Education Board. In addition to the textbooks constant use will be made of various agricultural bulletins and other scientific pamphlets. In case the pamphlets cannot be obtained gratis they can be borrowed from the Correspondence-Study Department for a nominal fee. This course should be attempted only by persons having a fair general knowledge of botany. It is designed to give teachers of elementary agriculture a thorough grasp of the principles underlying their subject. Mj. ASSOCIATE PROFESSOR CROCKER AND DR. ECKERSON.

7. Elementary Forestry.—The principal subjects covered by this course are: (1) the identification of trees by the use of keys and other helps; (2) the life-relations of trees, that is, trees as influenced by light, soil, temperature, wind, animals, and by the struggle for existence; (3) the composition and distribution of the forests of the United States; (4) some economic aspects of forestry, namely, the proper care and management of the forests, including plans for improvement cuttings, for reproduction, and for protection from fire. The object of the course is to impart an elementary general knowledge of forestry, including the forestry problems in the United States, and it is offered primarily to teachers in the belief that they can do much to influence public opinion in regard to one of the most important economic problems confronting the country. Textbooks are used, but whenever practicable they are supplemented by field exercises on some limited forested area selected by the student. Mj. DR. HOWE.

8. Ecological Plant Anatomy (30).—This course is a continuation of course 5 and commands graduate credit. It involves a careful study of the absorptive, conductive, synthetic, protective, and storage tissues of plants in relation to their functions, with special attention to the variations of structure in so far as they depend upon changes in environment. Students electing this course should have a knowledge of elementary botany and be somewhat familiar with the use of the microscope. The student must have access to a good compound microscope, and if the work is to be done during the winter, access to a greenhouse is very desirable. Fee for materials and loan of slides, \$2.50. Mj. DR. FULLER.

9. Field Ecology (36).—This course is designed primarily for those students who have taken residence courses in ecology and who desire to pursue further investigations along this line. The work consists very largely of systematic study in the field. A definite region or plant formation may be made the subject of study, or some problem may be selected in the ecology of plant structure or behavior. In case the work undertaken involves the use of special material and instruments it may be possible to borrow them from the University for a special fee. (Informal.) Mj. PROFESSOR COWLES OR DR. FULLER.

10. Elementary Plant Anatomy.—A study of the tissues and tissue systems of vascular plants from the standpoint of phylogeny. This work is very different from the old anatomy in which facts were presented without any attempt to relate them to each other. The course deals with the morphology and evolution of the vascular system, and is based upon a comparative study of representative juvenile and adult forms of Pteridophytes, Gymnosperms, and Angiosperms. A microscope magnifying about four hundred diameters is necessary. An extensive knowledge of micro-technique is not essential. Directions for preparation of material and making of the necessary mounts will be given in the exercises. Fee for material and loan of slides, \$2.50. Mj. ASSOCIATE PROFESSOR LAND.

11. Methods in Plant Histology (4).—This course deals with the principles and methods of killing, fixing, imbedding, sectioning, staining, and mounting. The student must have access to a compound microscope magnifying at least four hundred diameters, a microtome, and some other apparatus and reagents. A fee of \$2.50 is charged for plant material which is not readily collected at all seasons. No one should register without consulting the instructor. Mj. ASSOCIATE PROFESSOR LAND.

HYGIENE AND BACTERIOLOGY

ACADEMY

1. General Bacteriology and the Relation of Bacteria Yeasts and Molds to the Household, Dairy Industries, and Agriculture.—This is primarily a culture course designed for those who do not wish to go to the expense of setting up a laboratory and will consist of: (1) simple experiments at home; (2) examination and description of sealed cultures; (3) writing of themes on assigned subjects; (4) selected readings. [This course commands admission credit only.] Mj. DR. HEINEMANN.

COLLEGE

2. Bacteriological Methods (2).—The following subjects will be covered: (1) principles of sterilization; (2) manipulation of the microscope; (3) rôle of bacteria; (4) methods of growing bacteria; (5) methods of staining bacteria; (6) description of bacteria; (7) bacteriology of water and milk. The applicant must have access to a compound microscope with a low-power and a high-power objective. If all the apparatus is purchased it will cost approximately sixteen dollars exclusive of the microscope, but many of the parts can be extemporized. A complete set of the apparatus needed, packed ready for shipment, can be supplied for about \$16.00. Course 1 is not prerequisite. *Mj. DR. HEINEMANN.

3. Public Hygiene (3).—This is a reading course exclusively. The following subjects are covered: dissemination of disease, preventive measures; hygiene of food, water, and milk supplies; housing; ventilation; personal hygiene, etc. Prerequisite: high-school chemistry, "Bacteriological Methods," and "Introductory Physiology A" or equivalent training. M. DR. HEINEMANN.

4. Advanced Bacteriology.—A series of courses designed for those interested in some particular branch of bacteriology, e.g., medical, sanitary, agricultural, etc.

A. Yeasts, Molds, and Acetic-Acid Bacteria.—A course designed especially for those wishing to prepare themselves for the practical use of bacteriology in fermentation industries. The general methods of studying this class of micro-organisms are studied and practical work proposed. *Mj.

* On account of the danger involved in handling bacteriological material and cultures of bacteria without careful supervision, exactly the same kind of work that is required of students in the residence courses cannot be demanded of those at a distance. Consequently the quantity of credit that can be allowed for these courses is variable—depending in large measure upon the quality of the work performed by the student after he has come into residence.

B. *Water and Milk Analysis.*—This course covers the methods of practical water and milk analysis. The methods given are those in use at health and private laboratories, and, though not complete for research, give the student an idea of how research may be prosecuted after these subjects have been mastered. *Mj.

[For those who wish to make a more comprehensive and intensive study of water analysis or milk analysis a full Major corresponding to course 10 or to course 11 in residence can be provided in either subject.]

C. *Bacteriological Examination of Soil.*—An elementary course in soil bacteriology, giving the methods now in vogue for investigation of soil conditions. Some knowledge of chemistry is required. *Mj.

DR. HEINEMANN.

LIBRARY SCIENCE

1. Technical Methods of Library Science.—This is an elementary course designed especially for those who are already in library positions and are unable to leave for resident study. It deals chiefly with cataloguing and classification, with a few general lessons on accessioning, shelf-listing, bookbinding, periodicals, and loan systems. It is felt that no library training can be complete without personal familiarity with the "tools" of the profession and modern methods of work. Hence it is hoped that students taking this course will find it possible later on to supplement the work thus begun by resident study at some library school. While credit is not given for correspondence courses in any such school, familiarity with library methods will make residence work easier for the student. As preparation for this course two years of college training or its equivalent is required. Practical experience in library work will count much in the applicant's favor. The course consists of twenty-four lessons. Mj. Miss ROBERTSON.

EDUCATION

THE HISTORY OF EDUCATION

1. History of Education.—This course covers in outline the history of education from savagery to the present time. The subject is presented in such a way as to enable the student (1) to gain a conception of the relations of the ideals of an age to general industrial and social conditions; (2) to discover the more important steps in the development of educational theory and practice; and (3) to get a background for the evaluation of the various factors in the problems which command attention today. Emphasis is placed upon great movements rather than upon individuals. Eminent philosophers and educators are considered, but they are treated with reference to the movement to which they have contributed. Mj. Dr. DOPP.

2. Introduction to the History of American Education (10).—A brief review of European social and educational conditions in the sixteenth and seventeenth centuries, particularly in England and Holland, is made in order to secure a background for the study of American colonial conditions. The following topics are then studied: (1) the transplanting of European educational institutions and practices, and their modification to meet colonial needs; (2) comparisons of general social conditions in the several colonies and the resulting contrasts in educational development; (3) the development of a few typical and contrasting state systems; (4) the influence of the development of the factory system and the growth of large cities during the nineteenth century; (5) secondary education; (6) teacher-training; (7) educational extension; (8) higher education; (9) agricultural education; (10) recent movements. This course should appeal not only to all administrators and teachers who desire to secure a preliminary survey of the development of education in America but also to general readers who may feel an interest in the growth of an institution which today involves the expenditure of about one-half billion of dollars annually. The content and method of the course have been influenced by the belief that the

* See note on p. 59.

greatest service the history of education can perform is to induce executives and teachers to analyze their problems more intelligently in the light of past theories and practices. Actual schools and schoolroom practices will be stressed much more than abstract theory. Mj. MR. GONNELLY.

3. A Comparative Study of Foreign School Systems (41).—The course will be devoted mainly to a study of the schools of Germany. It will trace the historical development of the existing systems of elementary and secondary education as an expression of the religious, social, and industrial ideals that have dominated the people, with especial emphasis upon the influence on public education of ecclesiasticism, humanism, realism, and nationalism. For purposes of comparison some attention will be given to the schools of England and France and to present tendencies in reorganization of education in the Orient. Mj. PROFESSOR BUTLER.

ADMINISTRATIVE AND SOCIAL ASPECTS OF EDUCATION

4. Educational Administration: Introductory Survey (30).—A general survey of the field of educational administration, designed to give the student a selected, technical bibliography of the field of school administration, an adequate acquaintance with typical problems of the field, and an introduction to the recent statistical and measuring methods of treating school problems. The larger topics taken up are: (1) problems of school organization and administration—present conditions and established principles concerning school boards; (2) financing the public schools; (3) the business management of city schools, school accounting, and school costs, construction, operation, and maintenance of buildings, administration of supply department; (4) problems of the teaching staff—training certification, rating the efficiency of instruction, salary schedules; (5) problems centering around the pupil—elimination, retardation, and acceleration, grading and classification, promotion systems, methods of grading student work—teachers' marks; (6) brief perspective of the measuring movement in education—standard tests, scales, school surveys; (7) miscellaneous topics—the school census, school records and reports. Mj. ASSISTANT PROFESSOR RUGG.

5. Elementary-School Administration and Supervision.—This course is for principals and supervisors of elementary schools and for superintendents in the smaller cities. It includes a study of such topics as (1) the making of curricula and time schedules of classes; (2) bases for selection of teachers; (3) standards of efficiency and grading of teachers; (4) effective methods of supervision and constructive criticism of teaching; (5) the faculty meeting; (6) departmental teaching; (7) individual promotions; (8) the fast and the slow child; (9) teaching children how to study; (10) physical and medical supervision; (11) the use of standard tests; (12) the use of statistical material; (13) the school library and the museum; (14) the organization of field excursions and trips to industrial plants; and (15) meetings of parents and teachers to discuss school questions. The administrative officer ought to gain from this course an increased realization of the nature of the problems which his school presents and a knowledge of the means for their solution that are being used successfully elsewhere. The course involves making a study of the local school. Mj. MR. GILLET.

6. High-School Administration (36).—This course is planned for high-school principals, teachers interested in the administrative aspects of the high school, and superintendents. It deals with the practical problems of secondary-school administration, including the relation of the high school to the elementary school and to the college; the use of grades and statistical studies as tests of efficiency; the making of curricula and of programs; the reorganization of the material of secondary education; the junior high school; faculty organization; classroom management; discipline; social organization; moral instruction and training. The material of the course is definitely related to actual school conditions, particularly to those in the University High School. Mj. MR. JOHNSON.

¹ Registrations will be accepted after October 1, 1917.

7. Principles of Secondary Education (37).—The course will discuss education as training for social efficiency: the intellectual, social, physical, and moral elements in education; adolescence; the high-school curriculum; handicrafts in secondary education; electives; the extension of the high-school course by the addition of two years; "the many-sided interest"; sending boys and girls to college. The student will be expected to make a study of schools in his neighborhood and to make reports upon these schools in relation to the general topics studied. Mj. PROFESSOR BUTLER.

8. The Evolution of Industries and Their Place in Education.—This course is designed to meet the needs of those supervisors, principals, and teachers who are attempting to incorporate industrial education in the course of study. It aims: (1) to afford an insight into the principles of selection by means of which industries and occupations of various sorts may be tested; (2) to present the most fundamental features of industrial evolution; (3) to make a more particular study of several typical industries; (4) to make a practical application of these studies to the elementary and high schools; and (5) to help the teacher gain information regarding the literature of the subject and the nature of the materials and apparatus required. Mj. DR. DORR.

9. Industrial Education in Public Schools (57).—The course begins with an explanation of the meaning of the present widespread movement for industrial education and a discussion of its relation to other phases of vocational training. This is followed by a historical sketch of industrial education in the United States since 1876, which serves to show the relation between manual training and industrial education. A complete analysis of the present demand for industrial education is made, and consideration is given to the attitude of the manufacturer, of organized labor, of the educator, and of the social worker. Educational ideals are discussed briefly, and a statement is made of the necessary revision of these ideals involved in the evolution of the school system to meet the demand for industrial education. A comprehensive plan of organization for school systems of industrial communities is discussed in detail, and a study is made of all the existing types of industrial schools or classes. These include elementary or pre-vocational, intermediate, secondary, trade, part-time, continuation, and evening schools. Reference is also made to some private experiments in trade training. Among the topics discussed in their relation to industrial education are the following: (1) industrial history; (2) labor and capital; (3) elimination of waste; (4) specialization and concentration; (5) basis of differentiation between elementary and secondary education; (6) vocational guidance; (7) state legislation. Mj. ASSOCIATE PROFESSOR LEAVITT.

10. Vocational Guidance (59).—The course includes the survey of the recent rapid development of various efforts which have been made within and without the schools to secure a more rational adjustment between educational institutions and the usual vocational experiences of young people as they leave school and enter occupations. The purpose of the course is to encourage school officers and teachers to forward this movement by bringing to their attention illustrative examples of vocational guidance in the public schools of the United States. Such topics as guidance, placement, employment supervision, vocational analysis, analysis of personal characteristics, cumulative school records, vocational guidance surveys, and vocation bureaus will be discussed. Special attention will be given to the relation between industrial education and vocational guidance. The student will have his attention called to the literature of the subject, classified as follows: (1) that discussing the need of vocational guidance in view of existing conditions; (2) that describing modern industrial conditions; (3) that discussing the introduction of vocational guidance into public-school systems; (4) that illustrating the kind of guidance literature which may be put into the hands of pupils; (5) that dealing with the methods of analyzing an occupation; and (6) that discussing the analysis of personal characteristics. The course is especially adapted to the needs of superintendents, principals of high schools, and those planning to fit themselves for vocational counseling. Mj. ASSOCIATE PROFESSOR LEAVITT.

11. Primitive Arts as Educational Means.—This course treats of such typical arts as the dance and pantomime, the festival, music, poetry, the graphic and the plastic arts, with reference to (1) their genesis, growth, and differentiation; (2) their practical, intellectual, social, and aesthetic values; and (3) their significance in elementary education. Mj. DR. DOPP.

EDUCATIONAL PSYCHOLOGY AND EXPERIMENTAL EDUCATION

12. Educational Psychology (62).—A study of the fundamental psychological processes, with especial emphasis upon those which have direct relation to educational problems. The application of mental laws both to general educational procedure and to the conduct of the special disciplines is made throughout. For example, the general problem of interest and the particular school subjects, reading, writing, and number, are treated from the psychological point of view. Attention is given also to the mental development of the child. Mj. ASSOCIATE PROFESSOR FREEMAN AND ASSISTANT PROFESSOR ASHLEY.

13. The Psychology of School Subjects.—This course endeavors to apply psychological principles, as determined experimentally either in laboratory or classroom, to the problems which confront one in dealing with the subjects of our curricula. Effort is made to render the course as practical and helpful as possible; hence abstract and theoretical discussions will receive little attention. The actual learning process of the child's mind in gaining a comprehension of the branches of study will be emphasized. The following types of learning will be studied in considerable detail: (1) sensorimotor, (2) perceptual, (3) fixing of associations, (4) abstract thought. In all the work the aim is constantly to utilize psychology in the educational field in much the same way that mathematics is employed in the field of engineering. The instructor's belief is that principles, determined by scientifically controlled experiments, should form the basis of our educational practices.

A. Elementary-School Subjects (64).—The principles of learning will be set forth in order that they may shed light upon the problems of method involved in teaching these subjects: (1) handwriting; (2) spelling; (3) reading; (4) music; (5) grammar; (6) handicrafts; (7) geography; (8) history; (9) arithmetic; (10) civics; (11) natural science; (12) physiology; and (13) drawing. Some more general matters also will be presented, viz., assignment, the recitation, motive, etc. This course will aid superintendents, supervisors, principals, and teachers in gaining a more intelligent comprehension of the learning process. M.

B. High-School Subjects (65).—In this course the principles of psychology will be applied to the subjects taught in the secondary school. Topics treated are as follows: (1) the psychology of language; (2) individual differences; (3) industrial courses; (4) science; (5) interest and its relation to learning; (6) mathematics; (7) history; (8) the fine arts; and (9) teaching pupils to study. This course should prove of value to superintendents, principals, and high-school teachers who wish to improve their ability to analyze, interpret, and criticize teaching and to evaluate their own efforts. M.

MR. GONNELLY.

14. Statistical Methods as Applied to Educational Problems (72).—This course aims in a threefold way to give the student thorough acquaintance with both theory and practice in the statistical treatment of educational material. (1) It organizes the statistical literature in such a way as to make clear the principal types of technique used in educational research; (2) it gives opportunity for the development of skill in the manipulation of those statistical methods which it is necessary to employ in the administrative and experimental problems in education; (3) it will provide discussions and interpretations of the statistical methods employed in typical scientific studies in education. Portions of those studies that involve the use of statistical studies will be read and discussed critically. Data secured from concrete problems of school administration will be used as a basis for practical work in treating statistical measures. For graduate students and undergraduate students who have had teaching and administrative experience. Mj. ASSISTANT PROFESSOR RUGG.

15. Educational Measurements (77).—In this course an intensive study will be made of the recent measuring movement in education. It will include a study of units and standards in measuring specific educational product: (1) a brief historical perspective of the measuring movement; (2) fundamental principles and issues underlying the demand for standards; (3) attempts to standardize the content of the course of study—the recent movement to determine scientifically the minimum content for the elementary curriculum; standard content for certain secondary subjects; (4) an organization of the principal tests which have been designed to measure the outcomes of specific studies in (a) elementary curriculum: handwriting, reading, arithmetic, spelling, drawing, English composition; (b) high-school curriculum: studies aiming at standards in mathematics, German, English, etc.; (5) a critical discussion of the validity of the tests and the determination of sound principles of design and method of construction; (6) the correlation of various attempts to work out standard tests; (7) the use of standard tests to the administrator; to the teacher in the improvement of classroom efficiency; to school surveyors. Mj. ASSISTANT PROFESSOR RUGG.

16. An Introduction to Child-Study.—Child-study in the widest sense aims to give scientific information concerning the normal life of children. Necessarily it emphasizes natural growth and normal functioning in every aspect, but it must touch upon abnormal growth and the conditions and situations that influence favorable and unfavorable physical and mental constitution and action. This course is designed principally to acquaint students with such phases of the physical and mental life of children of school age as the hygienist and teacher should be familiar with. It reviews the main problems that have been or are being investigated, as well as the current methods of correcting, standardizing, and presenting data concerning child growth and education, and suggests lines of inquiry that are of vital interest to the well-informed worker with children. Mj. DR. MACMILLAN.

17. Classifications and Care of Children.—This course will deal with a special problem of child-study, namely, the variations that differentiate children. Starting with the characteristics common to all children, it will emphasize the varieties or departures from the common or typical which require special care in the home and special training and opportunities in home and school. While primarily designed for students who aim to specialize in the investigation, or the teaching, or the care and treatment of special children, much of the course can be made adaptable to meet the interests and needs of regular teachers and mothers. Prerequisite: course 16 or its equivalent. Mj. DR. MACMILLAN.

EDUCATIONAL METHODS

18. Introduction to Education (1).—This course is a survey of the most important problems in education by means of a brief consideration of the chief topics in the various branches of the subject. The student is introduced to some of the fundamental conceptions of: (1) the psychological aspects of the child's development as it may be influenced by training; (2) the choice of subjects of study and its relation to the child and the community; (3) the forms of organization through which the school is administered; and (4) the method of teaching and of classroom management. The topics are treated with some reference to their historical background. The course is designed to give the student a general view of the whole field as a prelude to later, more detailed study of its special divisions. Mj. ASSOCIATE PROFESSOR FREEMAN AND MR. GONNELLY.

19. Principles of Method for Elementary-School Teachers.—This course, which is designed for supervisors as well as for elementary-school teachers, treats of the principles underlying the learning process and the selection and organization of subject-matter. Typical modes of activity, such as dramatic play, modeling in sand and clay, drawing, painting, excursions, field trips, experimental work, illustrative and real constructive work, and language, are considered as means of providing first-hand experience which the child needs in order to

understand the subject-matter presented in books and other symbols. The principles considered are applied to the teaching of history and nature-study. Mj. DR. DOPP.

20. Principles of Method for High-School Teachers.—This course discusses the general principles of method which are fundamental in the teaching of all high-school subjects, and indicates by concrete illustrations from these subjects how the principles apply. The following topics are taken up: (1) purposes of high-school instruction; (2) economy in classroom management; (3) the selection and arrangement of subject-matter; (4) types of learning—motor control, the association of symbols and meaning, practice or drill, reflective thinking, habits of enjoyment, and training in expression; (5) self-activity and apperception; (6) influence of age on learning; (7) interests, the basis of economy in learning; (8) adapting class instruction to differences in capacity; (9) supervised study; (10) the use of books; (11) conversational methods; (12) laboratory methods; (13) the art of questioning; (14) lesson plans; (15) measuring the results of teaching; and (16) observation of teaching. Mj. DR. DOPP.

METHODS IN DIFFERENT SUBJECTS

KINDERGARTEN-PRIMARY

1. Primary-School Methods (3).—This course is planned for the practical help of primary teachers, kindergartners, and supervisors. It will consider: (1) the intrinsic relations between the kindergarten and primary grades; (2) various factors in the making of a curriculum for the first three grades and the organization of subject-matter in these grades; (3) the relative proportion and the relation of children's independent work at their seats to the recitation period and the character of such work; (4) the relation of reading, writing, number, and constructive work to the rest of the program; (5) the simplifying and unifying of the day's program. Since the teaching of reading is rather the unique problem of the primary grades, especial attention will be given to a discussion of the principles involved, legitimate tests of what constitutes good reading, and prevalent methods considered in the light of these premises. Each lesson will give an opportunity for help in meeting individual problems in the subject under consideration. The aim is to enable teachers to organize work in the primary grades effectively and to carry out work already organized more intelligently and successfully. Mj. MISS WYGANT.

HISTORY

2. History for Primary Grades (1).—This course is designed for teachers in primary grades and also for supervisors and principals. It aims: (1) to show the principles upon which subject-matter should be selected for the children of the lower grades; (2) to assist the teacher in outlining a course of study; (3) to give practical help in methods of presenting subjects to children; (4) to show the relation which a course of study in history should bear to the social occupations of the school. The course treats of the following topics: primitive industrial and social life; local history; civics; constructive work; children's literature. Students who are teaching in primary grades may modify their work to make it of practical assistance in their own schools. Mj. ASSOCIATE PROFESSOR RICE.

3. Teachers' Course in American History (11).—This course is intended for teachers in the upper grades of the elementary schools. It gives a brief study of colonial history and a fuller treatment of the period of westward expansion. The effects of geographical environment upon industrial and social life are emphasized. Mj. ASSOCIATE PROFESSOR RICE.

A Method of Teaching Historical Geography.—(Cf. description under History 21.) Mj. ASSISTANT PROFESSOR WALKER.

HOME ECONOMICS

4. Design, Decoration, and Furnishing of the House.—This course treats of the general principles which govern the decorating and furnishing of an artistic home, and is intended: (1) for home-makers, as an aid (a) in the selection of paints and stains for house exteriors, wall and floor coverings, draperies and upholstery, furniture, hardware, table appointments, etc., (b) in the arrangement of the home, with due regard to color harmonies and space relations, and (c) in the designing and executing of such pieces of handicraft as stenciled or embroidered hangings and covers, lamp and candle shades, screens, pillows, etc.; (2) for teachers, as an enrichment of the courses in art and domestic science in primary and secondary schools, offering in the home a nucleus for a course embracing problems in design and handwork. The following topics are treated: (1) domestic architecture, selection from architects' drawings, exteriors and plans, making original plans; (2) color and color harmonies, applied to the exterior and interior of a house; (3) proportion and space relations, with illustrative problems in design; (4) study in detail of walls, floors, stairs, doors, windows, furniture, hardware, and textiles, with investigation, under direction, of articles to be found in the stores. Mj. MISS RAYMOND.

5. Costume Design (135).—This course is planned for upper-grade and high-school work and gives a good working knowledge of the fine qualities in raiment which express in best terms the superior mental and physical character of individuals. It establishes standards for judging and presenting the principles underlying drawing, structural design, and color in their direct and corrective application to costume. It discusses the place and contribution of the subject to the individual, the problem of fashion, and historic types, using these as contributive material to originality of conception. The technical work includes sufficient practice in drawing for the expression of ideas and to help graphic memory. Mj. MISS WHITTIER AND MISS CLARK.

6. Household Design (141).—This course presents the subject by means of theory and practice simplified to meet the problem of the average citizen of average income and undertakes to stimulate and develop superaverage aesthetic comprehension and power. It presents the principles underlying the use of color and of structural and decorative design, and calls for sufficient illustration to insure a clear understanding of the basis for judgment. It discusses practical and aesthetic values regarding the home, exterior and interior, and, in a general way, civic environment and historic types. Teachers interested in upper-grade and high-school drawing should consider the possibilities for broader interpretation and application to life-needs in the subject of Household Design. The technical work includes sufficient practice in drawing and construction to enable the student to record ideas. Mj. MISS WHITTIER AND MISS CLARK.

LATIN

The Latin Subjunctive.—(Cf. description under Latin 11.) Mj. MISS PELLETT.

Training Course for Teachers of Latin.—(Cf. description under Latin 24.) Mj. PROFESSOR MILLER.

GERMAN

The Teaching of German in Secondary Schools.—(Cf. description under German 25.) Mj. ASSISTANT PROFESSOR GRONOW.

ENGLISH

English Grammar for Teachers.—(Cf. description under English 39.) Mj. ASSOCIATE PROFESSOR MARSH.

7. The Teaching of English in the Upper Grades of the Elementary School (14).—The course includes: (1) a survey of the literature for these grades which requires the re-reading and discussion of a number of juvenile classics; (2) discussion of the principles that should guide the teacher in the choice of

material; (3) methods of presenting certain selections in each grade; (4) the child's voluntary reading; (5) dramatization of scenes from literature and history. Composition is considered in its relation to the child's interests and activities. Textbooks, reading lists, and courses of study are examined. The student is directed to standard books and articles on the subject. Mj. MISS LALLY.

8. The Teaching of English Composition in Secondary Schools (7).—Deals with the general problems of composition in the high school. Among the topics considered are the following: aims, organization, criticism of themes, standardization, assignments, etc. The student is put in touch with the best books on teaching English, and is enabled to use his own classroom as a laboratory for the exercises and experiments required. The course is designed to co-ordinate closely with the daily duties of a student engaged in teaching. Prerequisite: 2 Majors in composition or the equivalent. Mj. ASSOCIATE PROFESSOR LYMAN.

9. The Teaching of English Literature in Secondary Schools (80).—A survey course considering such topics as the reform movement, the modern point of view, the organization of the course of study, the basis of method, the teacher's preparation, etc. Adapted, as is course 8, to the activities of the student's own classroom. May be elected by students not teaching if they have the opportunity to observe good teaching in neighboring high schools. Prerequisite: 2 Majors in literature or the equivalent. Mj. ASSOCIATE PROFESSOR LYMAN.

10. The Teaching of Oral English in Secondary Schools (12).—This course considers such topics as oral contests, literary societies, reading clubs, dramatization, debating, etc. It treats of various phases of oral English, both as this supplements the regular classes in composition and in literature and as it is involved in classes devoted entirely to oral work. It also includes extensive consideration of good practices in reading and speaking and a moderate amount of attention to the student's own habits of oral address. Prerequisite: 4 Majors in composition and literature or the equivalent. Mj. ASSOCIATE PROFESSOR LYMAN.

Commercial Correspondence.—(Cf. description under English 9.) Mj. ASSOCIATE PROFESSOR LYMAN.

SCHOOL-LIBRARY ECONOMICS

11. Literature for Children (31).—This course is designed for teachers, librarians, parents, social workers, and writers for children. It aims: (1) to give a survey of the field of literature for children; (2) to get at the principles underlying the selection of such literature; (3) to deal concretely and practically with certain problems of selection. It attempts to organize and to give new meaning to the mass of literature already read by the student as well as to direct his study along new lines. The course deals with the following topics: (1) the young child and the book; (2) the adolescent and the book; (3) institutional factors, as: relation between school and library, Sunday school, the home; (4) the psychology and the hygiene of reading; (5) tested and graded lists of books through the twelve grades of school; (6) historical survey of books for children in America; (7) influence of England, France, and Germany on literature for children; (8) qualities and form, as: simplicity of plot, rapidity of style, narration drama, etc.; (9) selected classics as literature for children: *Iliad*, *Odyssey*, *Nibelungenlied*, *Morte D' Arthur*, *Aesop's Fables*, *Arabian Nights*, *Shakspere's Plays*, *Robinson Crusoe*, *Pilgrim's Progress*, *Gulliver's Travels*, *Alice in Wonderland*; (10) *Mother Goose*, the fairy tale, the ballad; (11) poetry for the young—principles of selection; (12) oral interpretation and reading of literature; (13) the Bible; (14) notable fiction; (15) scientific books—the book as a tool; (16) dramatic instinct—Shakspere for the young; (17) illustrated books for children. The books used in the course are to be found in ordinary public libraries; the pamphlets and lists can be procured at small cost. A few reproduced pages from old and rare children's books will be furnished. For those interested in building up a children's library both the most expensive and also the cheaper editions will be indicated. Mj. MISS BLACK.

MATHEMATICS

12. The Teaching of Elementary-School Mathematics (1).—This course is based on a good knowledge of the subject-matter of arithmetic, algebra, and geometry. It includes a critical study of (1) the content, (2) the organization, and (3) the methods of presenting mathematics to grade pupils. The curriculum is critically studied from grade to grade, with a view to determining the best type of work for the modern elementary public school. Some attention is given also to testing the results of arithmetic teaching. Mj. PROFESSOR MYERS.

13. Psychology of Number.—The work of this course requires a good knowledge of the subject of arithmetic and some power of abstract thought. Questions having to do with the psychological genesis and growth of the number concept are examined. The psychologic grounds for and against the ideas which have dominated pedagogic method in the elementary mathematics are critically examined. The variable unit conception of number is studied with special care. The purpose of the course is to make teachers of elementary mathematics clearly conscious of the function of this subject in elementary education, thereby rendering this practice immune from contagion of shallow mechanical devices as methods of training the number faculty of children. Mj. PROFESSOR MYERS.

14. Teachers' Course in the First Two Years of Secondary Mathematics.—This course covers the essentials of the work in mathematics usually taught in the first two years of the high school. The subjects, algebra and geometry, are related to each other and to other topics not usually treated in the first two years. Thus trigonometry is introduced in the second year leading to the solution of the right triangle and simple trigonometric equations. The course serves as a review from the point of view of the teacher, it suggests methods of presenting the subject-matter to high-school classes, and brings the teacher into close touch with modern ideas and methods. It presents the work under the aspect of unified mathematics. DMj. PROFESSOR MYERS.

15. The Teaching of Secondary Mathematics (2).—This course covers the general theory of the teaching of secondary subjects. It examines critically the best modern courses in algebra, geometry, and trigonometry and undertakes to point out the present defects in the organization and administration of the mathematical work in high schools with a view to specifying desirable improvements. Subject-matter is treated only in so far as needed to exhibit method, organization, and modern tendencies. Mj. or DMj. PROFESSOR MYERS.

16. The Teaching of College Algebra, Trigonometry, and Analytics.—A good academic knowledge of these subjects is required for admission to this course. The following topical enumeration will suggest the nature of the questions considered: (1) the purpose of college algebra, trigonometry, and analytics in the curriculum of the college: (a) viewed from the teacher's standpoint, (b) viewed from the student's standpoint; (2) method of teaching these subjects as determined by this purpose; (3) the correlation idea as applied to Freshman college mathematics; (4) the laboratory method in Freshman college mathematics; (5) use of graphical work early and all along; (6) applications of these subjects in teaching them; (7) dangers of this teaching becoming too abstract; (8) order and sequence of special topics. Any recent text in each of these subjects will answer. Mj. PROFESSOR MYERS.

17. History of Mathematics (5).—This course is intended to put the student in possession of a knowledge of the most fruitful epochs and of the most salient influences of mathematical history; to make him more keenly appreciative of the fact that his science is and always has been a growing science, to inform him that the attitude of mind exhibited by the works of the great mathematicians is most conducive to progress today; in short, to assist the mathematical student to identify himself more intelligently with those men and movements which are making for mathematical advance at the present time. Mj. PROFESSOR MYERS.

NATURAL SCIENCE

Physiography.—(Cf. description under Geology 2.) Mj. ASSISTANT PROFESSOR BRETZ.

General Geology.—(Cf. description under Geology 3.) Mj. ASSISTANT PROFESSOR BRETZ.

Interpretation of Topographic and Geologic Maps.—(Cf. description under Geology 4.) M. PROFESSOR TROWBRIDGE.

Vertebrate Embryology.—(Cf. description under Zoölogy 7.) Mj. DR. HYMAN.

Elementary Plant Physiology.—(Cf. description under Botany 4.) Mj. ASSOCIATE PROFESSOR CROCKER.

Elementary Plant Ecology.—(Cf. description under Botany 5.) Mj. DR. FULLER.

DRAWING AND PAINTING

20. Elementary Drawing and Painting (6).—All teachers would like to be able to draw. Most teachers in the elementary schools are expected to teach drawing. This course aims to present the subject of drawing and painting in such a way that at its completion the student will understand how to teach drawing to children and will also have some dexterity in the art. The degree of skill attained in both will depend somewhat upon natural ability and previous training, but neither is demanded by this course. The work is arranged under the following heads: (1) illustrative sketching and drawing; (2) object-drawing; (3) nature-drawing; (4) figure-drawing; (5) animal-drawing; (6) picture-study and outdoor sketching. The course discusses the place of drawing in the elementary schools, its relation to other subjects, suitable problems for the various grades, and methods of presentation. Mj. MISS WHITTIER.

21. Elementary Design (20).—All teachers want to know "How" and "When" to present a subject. All students desire to know "Why" a subject is presented. This course aims to answer the "How," "When," and "Why" of teaching design in the elementary schools. It is planned to meet the needs of kindergartners, grade teachers, art teachers, and all who wish a good working foundation in design. It discusses suitable problems and presents methods of teaching design to children in the elementary schools. It is not primarily a technical course, and previous knowledge of the subject is not essential. The work is presented in the following five groups: (1) printing; (2) units of design; (3) borders and surfaces; (4) color; (5) structure. The number of lessons in each group will vary according to the student's expressed needs; that is, the emphasis may be upon methods of teaching, technique, or the history of design. Mj. MISS WHITTIER.

22. Illustration (7).—A course planned for kindergartners and primary teachers. It includes a study of the following topics: (1) illustrations in children's books; (2) illustrations for familiar stories; (3) pictorial composition; (4) blackboard sketching. The technical work gives sufficient practice in drawing to enable the student to make simple illustrations. Mj. MISS WHITTIER AND MISS CLARK.

23. Structural Design.—A course planned to meet the needs of all interested in the following subjects: cardboard and paper construction; woodwork; metal work; clay work; textiles. The emphasis is upon the structural side, but a minimum amount of decorative design is discussed. Prerequisite: course 21 or its equivalent. Mj. MISS WHITTIER AND MISS CLARK.

An introductory course, **Freehand Drawing**, and three series of courses, **A. Mechanical Drawing**, **B. Architectural Drawing**, **C. Descriptive Geometry**, afford opportunity to begin the study of drawing and to continue it to a point where knowledge of higher mathematics—e.g., calculus, mechanics, etc.—conditions further progress. "Freehand Drawing" with any one of the series offers

what is usually done in the first two years in the best technological schools. While open to anyone they will appeal especially to those who wish thorough training in the fundamentals of the science, whether for immediate practical purposes in the office, shop, or classroom, or as a preparation for Mechanical, Electrical, and Civil Engineering, or for Architectural Drawing.

One may take any Major in any one of the three series for which he is prepared, though in most cases it will be found advisable, if not necessary, to begin with the first Major. Admission to any Major except the first one of a series is conditioned upon the approval of the instructor, who will base his decision upon a statement and exhibit of previous work. The University reserves the right to retain one drawing from the student's set in each Major and to determine whether admission or college credit shall be allowed.

The materials required in any Major will be sent, express collect, upon receipt of the amount given, which is the lowest that can be quoted for a good quality. The weight of the case and the price of the textbook will enable the student to determine the exact cost of each Major.

Material required in "Freehand Drawing."—Six sheets of Whatman's cold-pressed paper, 22×30 inches; 8 sheets of chalk-talk paper, 14×20 inches; 3 Koh-i-noor pencils, 3H; 1 pencil-eraser, No. 211; 1 dozen thumb tacks, steel-stamped, $\frac{3}{8}$ inch diameter; 1 box of French charcoal; 1 bottle of fixatif, two-ounce; 1 tin atomizer; 1 box "Star" chalks, six assorted colors; 1 drawing-board, 18×24 inches; and models of different solids.

Material required in courses A1, 2, 3, 4, 5; B2, 3, 4, 5; and C1, 2, 3, 4.—One drawing-board, 18×24 inches; 1 set drawing instruments in folding pocketbook style case, No. 422; 1 T-square, mahogany, ebony-lined fixed head, 24 inches; 1 amber triangle, 45°, 8 inches; 1 amber triangle, 30°×60°, 10 inches; 1 triangular boxwood rule, architect's, 12 inches; 1 flat boxwood scale, 6 inches, divided $\frac{1}{16}$ and $\frac{1}{8}$; 1 French amber curve, No. 1; 1 dozen sheets of Whatman's hot-pressed paper, 22×30 inches; 6 Koh-i-noor pencils, assorted, 3H and 6H; 1 bottle each of Higgins' carmine, black, and blue ink; 1 dozen thumb tacks, steel-stamped, $\frac{3}{8}$ inch diameter; 1 Faber's pencil-eraser, No. 211; 1 Faber's ink-eraser, No. 2604; 1 Hardtmuth's soft pliable rubber, No. 12; 1 file, 4 inches; 1 penholder; 3 ball-pointed pens.

24. Freehand Drawing.—A course preparatory to each of the series described below except the second, in which it is required. It gives that thorough training of the eye and hand which is so necessary in all work requiring accuracy in observation and measurement. While this is primarily its purpose, the course offers the work required in most of the public schools of the country preparatory to teaching Freehand Drawing. Although it does not deal with the pedagogy of the subject it provides a practical and pedagogically correct working basis in this subject, and can be recommended, therefore, to all grade teachers and to others who are expected to teach Freehand Drawing in connection with their special work. The course embraces the following divisions: (a) *Freehand Projection*—to familiarize the student with the various views of an object and their proper arrangement upon the sheet, by which all the facts of size, form, and proportion are shown, together with perspective sketches of the object, 6 drawings; (b) *Model Drawing of Type-Forms*—outline sketching, in perspective, of the cube, cylinder, and other geometrical solids, introducing the principles of perspective as applied to small objects, 6 drawings; (c) *Model Drawing, Groups*—outline drawings of solids and other objects to teach composition and perspective, 6 drawings; (d) *Light and Shade*—pencil studies of the type solids and original groups of objects, to give practice in obtaining quick effects in black and white, 6 drawings; (e) *Color Work*—color studies with chalks, to teach an appreciation of surface, texture, and the proper juxtaposition of colors as applied to groups of objects, 6 drawings; (f) *Pen-and-Ink Studies* of single objects and original groups, involving outline, light and shade, texture, surface, etc., 6 drawings; in all, 36 drawings. No textbook is required. Cost of materials ready for shipment, \$3.00; weight of package, 18 pounds. Mj. MR. FERSON.

25. A—Mechanical Drawing.—

1. *Projective Geometry*.—(a) Preparatory work: this includes the use of instruments, laying out, penciling, inking-in, lettering, with practice work to learn accuracy of measurement and of line, 3 drawings. (b) Graphic geometry: this is intended to give the student a mastery of the various geometrical constructions which form the basis of all work in projection, descriptive geometry, and constructive drawing, whether mechanical or architectural, and at the same time to give facility in the use of the instruments, 6 drawings. (c) Projection: this will include the projection of points, lines, planes, and solids, 6 drawings; in all, 15 drawings. Textbook: Linus Faunce's *Mechanical Drawing*, \$1.45 net. Cost of materials ready for shipment, \$17.00; weight of package, 18 pounds. Mj. MR. FERSON.

2. *Constructive Drawing*.—(a) Intersections, including conic sections, oblique sections, intersections, and developments, 6 drawings. (b) Shadows: the first angle projection of shadows, 3 drawings. (c) Isometric projections with projections of shadow, 3 drawings. (d) Oblique or cabinet projection, 3 drawings; in all, 15 drawings. Textbook and equipment for this course same as for A1. Prerequisite: course A1. Mj. MR. FERSON.

3. *Machine Details*.—This course is intended to familiarize the student with the various parts of machines that have come to be recognized as standards and which are used in the construction of new machines. Standard sections for materials, fastenings, couplings, bearings, engine details, etc., 10 drawings. Textbook: Low and Bevis' *Manual of Machine Drawing and Design*, \$2.50 net. The equipment for A1 will suffice for this course also. Prerequisite: course A2. Mj. MR. FERSON.

4. *Gear Construction*.—Spur-gears, bevel, spiral, worm, elliptic, involute and cycloid teeth, hubs, arms, rims, etc., 10 drawings. Textbook: George B. Grant's *Teeth of Gears*, \$1.10 net; equipment, same as for A1. Prerequisite: course A3. Mj. MR. FERSON.

5. *Shop Drawing*.—(a) Machines from freehand sketches and measurement details and an assembled drawing of some piece of machinery; (b) tracing and blueprinting. Five drawings with their tracings and blueprints will be accepted for this course; in all, 15 sheets. No textbook is required; equipment, same as for A1. Prerequisite: course A4. Mj. MR. FERSON.

26. B—Architectural Drawing.—This series gives the student a good working knowledge of the essentials in architecture; history, the orders, the principles of the designing of dwelling-houses, office work in rendering, perspective, and detailing, together with tracing and blueprinting. As the success of the student in architecture is so completely dependent upon his knowledge of, and practice in, all the departments of freehand drawing and sketching, it is absolutely essential that the introductory Major, "Freehand Drawing," should be taken first, so it is made the first Major of the series.

1. *Freehand Drawing*.—Mj. MR. FERSON.

2. *Projective Geometry*.—Same as A1. Mj. MR. FERSON.

3. *Constructive Drawing*.—Same as A2. Mj. MR. FERSON.

4. *Architectural Details*.—(a) "The Orders," 10 drawings; (b) details of architectural construction from measurements, 2 drawings; in all, 21 drawings. Textbooks: Hamlin's *Architectural History*, \$1.75 net, and Ware's *American Vignola*, Part I, "The Orders," \$2.50 net. Equipment for this course same as for A1. Prerequisite: course B3. Mj. MR. FERSON.

5. *Architectural Design*.—(a) Domestic plans, from copy, 4 drawings; (b) design of some small building, 4 drawings; (c) tracings and blueprints, 4 tracings with their prints, 8 sheets; in all, 16 drawings. No textbook is required. Equipment, same as for A1. Prerequisite: course B4. Mj. MR. FERSON.

27. C—Descriptive Geometry.—This series is for those who wish to go into the higher mathematics, but have had no training in the graphic side of the subject. It consists of:

1. *Projective Geometry*.—Same as A1. Mj. MR. FERSON.
2. *Constructive Drawing*.—Same as A2. Mj. MR. FERSON.
3. *Theoretical Graphics*.—Problems in points, lines, planes, and straight-surfaced solids; 15 drawings. Textbook: Church's *Descriptive Geometry*, \$2.50 net; equipment, same as for A1. Mj. MR. FERSON.
4. *Practical Graphics*.—Curved and warped surfaces, shades and shadows, developments; 15 drawings. Textbook: same as for C3; equipment, same as for A1. Mj. MR. FERSON.

COMPARATIVE RELIGION

1. Introduction to the History of Religion.—This course is elementary in character and aims to conduct the student into the study of the general principles of religion and to outline the history of the various religions of the world. Mj. ASSISTANT PROFESSOR CONARD.

2. The Religion of Uncivilized Peoples.—This course surveys primitive religious customs and beliefs, noting their survivals in higher religions. The first part of the course consists of a general study of the religion of uncivilized peoples. In the second part a special study is made of the religion of the North American Indians or of some other uncivilized people, concerning whom material is available to the student. Mj. ASSISTANT PROFESSOR CONARD.

3. The History of Prayer.—A study of the evolution of prayer in ethical and theological lines of development. The survey begins with the crudest forms of prayer and closes with a discussion of prayer habits and ideals in present-day Christianity. Prerequisite: course 1 or 2 or an equivalent. Mj. ASSISTANT PROFESSOR CONARD.

The Religions of India.—(Cf. description under Comparative Philology 5.) Mj. ASSISTANT PROFESSOR CLARK.

OLD TESTAMENT LITERATURE AND INTERPRETATION AND ORIENTAL LANGUAGES AND LITERATURES

1. An Introduction to the Old Testament.—This course aims to give one a usable knowledge of the books of the Old Testament. It describes briefly: (1) how the ancient records have come down to us, (2) how those documents were compiled and edited; (3) the historical background of the Old Testament books; (4) the literary character of each book; (5) its main teachings; and (6) workable methods of solving its problems. The work is planned on a practical basis, and aims to give students a reasonably complete idea of the new and real advances that have been made in the last few decades in the understanding of the Old Testament. Mj. PROFESSOR PRICE.

2. Outline of Hebrew History.—This course condenses the treatment of Old Testament *history* given in courses 80, 81, and 82 in residence. It provides a survey of the history of the Hebrew people as presented in the Old Testament from the period of the conquest and establishment in Canaan to the Maccabean struggle and the close of Old Testament history. The course embraces a preliminary sketch of the patriarchal period, with a more detailed study of the conquest, the period of the Judges, the united and divided kingdoms, the exile, the revival of Judah, and the beginnings of Judaism. The bearings of prophetic activity upon the history and literature also receive consideration. Mj. MR. HENRY.

3. Historical Development of Old Testament Literature.—This course condenses the treatment accorded Old Testament *literature* in courses 80, 81, and 82 in residence. It begins with a very brief survey of the origins of the Hebrew people and their literary heritage from the past, then takes up the existing Old Testament literature in the order of its production and studies each portion as to (1) the historical circumstances of its origin, (2) its authorship, (3) its literary form, and (4) its purpose. The course aims to make the student conversant with the constructive results of the most recent historical research. Although this course has no technical prerequisites, a knowledge of Hebrew history as outlined in course 2 would be helpful. Mj. MR. HENRY.

4. Old Testament Prophecy.—The purpose of this course is to aid in securing a better understanding of the rise and development of prophecy in Israel. Some of the more important matters to be considered are: (1) the controlling ideas in the teaching of each of the great prophets; (2) the relation of the prophet and his work to the political and social movements of his day; (3) the attitude of the prophet toward the priest and priestly institutions; (4) the place of prophecy in the preparation for the work of Christ. Mj. MR. HENRY.

5. Old Testament Worship.—A study of the element of worship and the institutions and literature connected with worship in the Old Testament. Special consideration will be given to such topics as: (1) the priest; (2) place of worship; (3) sacrifice; (4) feasts; (5) tithes; (6) clean and unclean, etc.; (7) the origin and character of the Sabbath; (8) the date and character of Deuteronomy; (9) the origin of the Levitical legislation; (10) the composition of the Hexateuch. Attention will be given to the characteristic ideas of the priest as distinguished from those of the prophet and to the growth of priestly influence in Israel's religious life. Mj. MR. HENRY.

6. Elementary Hebrew (1).—Includes the mastery of the Hebrew of Genesis, chaps. 1-3; the study of the most important principles of the language in connection with these chapters; Hebrew grammar, including the strong verb and seven classes of weak verbs; and the acquisition of a vocabulary of four hundred words. Mj. MR. HENRY.

7. Intermediate Hebrew (2).—Includes the critical study of Genesis, chaps. 4-8, with a review of Genesis, chaps. 1-3; the more rapid reading of fourteen chapters in I Samuel, Ruth, and Jonah; the completion of the outlines of Hebrew grammar and an increase of vocabulary to eight hundred words. Mj. MR. HENRY.

8. Exodus and Hebrew Grammar (4).—Includes the critical study and translation of Exodus, chaps. 1-24; a more detailed study of Hebrew grammar; an inductive study of Hebrew syntax; and the memorizing of three hundred additional words and of several familiar psalms in Hebrew. Mj. MR. HENRY.

9. Haggai, Zechariah, and Malachi (29-second half).—A course of twenty recitations, including the critical and exegetical study of these books; the lexicographical study of two hundred important words; the principles of Hebrew prophecy; a study of Hebrew syntax, especially the subjects of the tense and sentence; the Hebrew accentuation; and the memorizing of about eight hundred words. M. MR. HENRY.

10. Elementary Arabic (200).—An inductive study of the elementary principles of Arabic grammar. The Arabic grammar of Socin, together with the exercises and stories contained therein, furnish the basis of the work. The course should prove useful to the needs of three classes of students: (1) those interested in the Old Testament or in certain phases of New Testament study, as proper use of a good Hebrew lexicon demands some knowledge of Arabic; (2) those who expect to do mission work in lands where Mohammedans are found (Turkey, Persia, Egypt, Northern and Middle Africa, Western China, India, the Philippines, etc.); some knowledge of Arabic, the Koran, and the Tradition is indispensable to the mission worker, and should be acquired before he is completely

engrossed by field work; (3) those who desire more intimate acquaintance with the great portion of the world's literature written in the Arabic tongue. Mj. ASSISTANT PROFESSOR SPRENGLING.

11. Advanced Arabic.—Three Majors of advanced work may be taken. The texts to be read will be selected from Brünnow-Fischer, *Arabische Chrestomathie*, and from the Semitic Study Series, according to the needs of the student. Hava's *Arabic-English Dictionary* is recommended; Wortabet or Steingass may be used. Wright's *Arabic Grammar*, third edition, should be in the hands of the student. ASSISTANT PROFESSOR SPRENGLING.

12. Literature and History of the Arabs.—Courses for students not conversant with the Arabic language are in preparation. Inquiries concerning work of this nature may be addressed to the instructor. ASSISTANT PROFESSOR SPRENGLING.

13. Elementary Assyrian (170-first half).—The cuneiform text as well as the transliteration is used from the beginning. The student learns the most common cuneiform signs, the strong verb and all classes of weak verbs, and the fundamental principles of the language. A knowledge of Hebrew is prerequisite. M. PROFESSOR BERRY.

14. Intermediate Assyrian (170-second half).—This includes the reading of several hundred lines of historical cuneiform text, with special attention to vocabulary, a further study of Assyrian grammar, including syntax, and the learning of most of the remaining cuneiform signs that are in frequent use. M. PROFESSOR BERRY.

15. Elementary Egyptian (250).—A beginning course based on a study of: (1) the autobiography of the nobleman Ameni and (2) folk-tales from the Westcar Papyrus (as transliterated from the hieratic). The commonest signs will be mastered, along with the grammatical usages of the classic period. Mj. DR. ALLEN.

16. Advanced Egyptian (252).—The historical inscriptions of the Eighteenth Dynasty will be studied, using Sethe's *Urkunden*. Mj. PROFESSOR BREASTED.

17. Elementary Russian.—

A (301). After a general study of the declensions and conjugations, texts supplied with extensive notes will be taken up and mastered. Mj.

B. (302). Continues the study of texts with review of inflectional forms. The vocabulary will be enlarged by the study of roots and suffixes; elementary composition; extensive syntax study. Mj.

ASSISTANT PROFESSOR HARPER.

Members of these Departments will endeavor to arrange informal courses for students who are prepared to do work of an advanced nature, whenever practicable.

NOTE.—Related courses are offered in History, Comparative Religion, and General Literature.

NEW TESTAMENT AND EARLY CHRISTIAN LITERATURE

1. Jewish History in the Time of Jesus (1).—The Jewish people in the Roman Empire; geography, population, and languages of Palestine; influence of Hellenism; political events and parties; industrial, social, and intellectual life; religious groups and institutions; moral and religious ideas—an introduction to the study of the life and teaching of Jesus. This course corresponds in general to the one in residence, which is required of candidates for the D.B. degree. Mj. PROFESSOR VOTAW.

2. Life of Jesus (106 or 5).—A comprehensive and systematic historical study of Jesus' purpose, method, message, deeds, and personality, in general aspects.

The forty lessons include such topics as: the characteristics of the gospels as historical sources, Jewish messianism, Jesus' aim and method in his ministry, the parables, the miracles, the Christology of the gospels, and the historical significance of Jesus. The course constitutes an introduction to the study of the teaching of Jesus. A knowledge of New Testament Greek is not required, but is valuable. To accommodate two well-defined types of students the course is presented in two grades: in its simple form it corresponds in general to the college course New Testament 106; in its advanced form to the graduate course New Testament 5. Mj. PROFESSOR VOTAW.

3. The Teaching of Jesus (71).—The four gospels will be investigated as to their origin, characteristics, trustworthiness, and the manner of their use for ascertaining the teaching of Jesus. The chief ideas and characteristics of Judaism in Jesus' day will be studied as the historical background to his teaching; also the development of Jesus' own religious experience and ideas, and the aim, limits, style, and method of his teaching. Then will follow topically a comprehensive, careful study of the content of Jesus' teaching. Mj. PROFESSOR VOTAW.

4. History of the Apostolic Age (8).—This course covers the history of Christianity from Jesus' death to the end of the first century. Among the more important topics studied are: (1) the experiences of the primitive Christians at Jerusalem; (2) the beginnings of missions; (3) the relations between Judaism and Christianity; (4) the missionary work of Paul; (5) Christianity's contact with the religions of the Greco-Roman world; (6) the growth of church ritual and organization; (7) the origin and content of early Christian doctrines; (8) the rise of Christian literature. Mj. PROFESSOR CASE.

5. Introduction to the Books of the New Testament.—

A. Life of the Apostle Paul and Introduction to the Pauline Epistles (2).—The work in this course is done on the basis of a handbook containing suggestions for detailed studies and outlines of the various New Testament books. The aim in this first part is to prepare the student for the interpretation of the letters of Paul and for an understanding of his personality and theology. Mj.

B. Introduction to the Gospels, Acts, and General Epistles (2).—Includes the study of the occasion and purpose of each book and its general content and structure. Mj.

PROFESSOR BURTON AND ASSISTANT PROFESSOR SEVERN.

6. The Ethical Teaching of the New Testament (91).—The moral ideal of Jesus is to be studied on the basis of the Sermon on the Mount, supplemented by material from other portions of the gospels. The specific principles set forth by Jesus, and the application which he made of them to his own life and to the conduct of others, will be interpreted. Similarly, the moral ideal of Paul, with its principles and applications, will be considered. Finally, there is a comparison and summary of the whole ethical teaching of the New Testament. Mj. PROFESSOR VOTAW.

7. Elementary New Testament Greek.—A course for beginners, presupposing no knowledge of Greek. It aims to secure, by an inductive study, the absolute mastery of chaps. 1-4 of the Gospel of John and the essential facts and principles of the language. Emphasis is placed upon the writing of exercises in Greek. Mj. ASSISTANT PROFESSOR SEVERN.

8. Intermediate New Testament Greek.—This course is designed for those who have completed course 7 and for those who wish to review their Greek in connection with the New Testament. It comprises the thorough study of the entire Gospel of John and the reading at sight of the First Epistle of John; also the acquisition of vocabulary and the most general principles of grammar. One who has diligently worked through this course should be able, with the aid of the lexicon, to read the New Testament with comparative ease. Mj. ASSISTANT PROFESSOR SEVERN.

9. **The Greek of the New Testament (43).**—Using the Gospel of Mark a thorough study is made of the syntax of New Testament Greek. Prerequisite: courses 7 and 8 or equivalent instruction in classical Greek. Mj. PROFESSOR VOTAW.

10. **The Apostolic Fathers (39).**—The course includes a study of: (1) the early Christian literature *ca.* 95–150 A.D.; (2) problems of date, authorship, and purpose; (3) reading of the Greek; and (4) studies in theology and polity. Outlines of the literature will be provided, and reports covering the topics given above will be required. The later development of New Testament ideas and practices, as reflected in this early Christian literature, will be especially emphasized. Mj. PROFESSOR GOODSPEED AND ASSISTANT PROFESSOR SEVERN.

SYSTEMATIC THEOLOGY

1. **Outline Course in Systematic Theology.**—The course is intended to give a general acquaintance with the field of systematic theology, with especial reference to the problems which are today attracting chief attention. The first half of the course is devoted to a general introduction to the subject; the second half to the content of systematic theology. The textbooks prescribed are to be carefully analyzed and criticized on the basis of questions and topics furnished by the instructor. This study is of real value as a general survey, but does not command credit for the D.B. degree. Mj. PROFESSOR SMITH.

2. Systematic Theology.—

A(1). *Introduction*, discussing the task and method of systematic theology in the light of modern conditions and setting forth the Christian doctrine of God. Mj.

B(2). The Christian doctrines of sin, salvation, and the person and work of Christ. Mj.

C(3). The Christian Life. The religious and ethical implications of the Christian experience, including the doctrines of sanctification, eschatology and Christian ethics. Mj.

PROFESSOR SMITH.

3. **Christian Ethics (8).**—This course sets forth the moral aspects of the Christian religious experience. The Christian moral ideal is compared with the various ethical ideals expounded by moral philosophers. The ethical ideal of Jesus is carefully studied with suggestions as to the method of determining duty in the various fields of human activity. An analysis of the important social problems of today serves to call attention to the field of constructive Christian activity. Mj. PROFESSOR SMITH.

4. **Apologetics (9).**—This course is intended to acquaint the student with the general outlines of a defense of Christianity. In the first place the content of Christianity which must be defended is sought on the basis of a historical study of the sources and history of Christianity. The ultimate elements of Christian faith are then defined and justified in the light of modern thought. Questions and topics suggested by the required textbooks are to be discussed in written papers by the student. Prerequisite: course 2 or an equivalent. Mj. PROFESSOR SMITH.

5. **The Theological Significance of Leading Movements of Thought in the Nineteenth Century.**—Modern idealistic philosophy, the theological principles of Schleiermacher and of Ritschl, the development of biblical criticism, the growing influence of natural science, the rise of the philosophy of evolution, and the significance of the Pragmatist movement are the chief topics for study. The problems raised for theology by these movements will be carefully considered. Those taking the course should have access to an adequate library or should be willing to incur considerable expense for books. Prerequisite: course 4 or its equivalent and a general acquaintance with the history of modern philosophy. (Informal.) DMj. PROFESSOR SMITH.

NOTE.—Related courses are offered in Philosophy, Psychology, Sociology, and Comparative Religion.

CHURCH HISTORY

1. Outlines of Church History.—A survey of church history from the founding of the church in Jerusalem to the present time, with special emphasis upon the Ancient (100–800 A.D.) and Reformation (1517–1648 A.D.) periods. Some of the most important subjects that will come under investigation are: (1) the conflict of the church with heathenism in the Roman Empire; (2) the rise and growth of the papacy; (3) heresies, controversies, and parties within the church; (4) the missionary expansion of the western church; (5) the struggle between the papacy and the empire for supremacy; (6) the rise and progress of the Reformation in Germany, France, Switzerland, England, and Scotland, and (7) the recent development of the Protestant churches in Europe and America. Mj. ASSISTANT PROFESSOR GATES.

2. The Protestant Reformation.—Extent and state of Christendom at the opening of the sixteenth century; new forces that sweep away the old order of things; Zwingli, Luther, Calvin, as expressions of the spirit of the new era; estimate of the movement in its relations to the general historic process. Mj. ASSOCIATE PROFESSOR MONCRIEF.

PRACTICAL THEOLOGY

1. The Theory of Preaching (1).—This course embraces a study of the character and purpose of the sermon, the methods of preparation, and the manner of delivery. The laws of effective popular discourse are studied inductively in connection with the preparation of sermons by the student. Prerequisite: college instruction in composition and rhetoric equivalent to that provided in "English III"; cf. p. 38. Mj. PROFESSOR SOARES.

2. Principles and Organization of Religious Education.—The course is a condensation of course 30 in residence plus course 33A. It provides a general introduction to the field of religious education. At the outset the religious life and its place in human development are defined, and the aim of religious education is made clear. This leads the student to investigate the neighboring fields of psychology and education to discover their contributions to the subject. The moral and religious development of the growing child is considered genetically, and examination is made of available material to determine its value in the various stages of child life. Institutions or agencies through which this tested material may be mediated are pointed out and the special opportunities of the home, the public school, the library, and the church are indicated. Other community factors are discussed and a basis of co-ordinating all agencies is formulated. Some attention is given to the organization of the modern Sunday school. Mj. MR. NOWLAN.

3. The Modern Sunday School.—This course discusses in detail some of the concrete problems of the modern graded Sunday school: (1) underlying ideals; (2) graded curricula; (3) relative value of the more important series of textbooks; (4) departmental organization and methods of grading pupils; (5) the important element of worship; (6) methods of handwork; (7) the library; (8) the secretary's department; (9) the social life of the school and its relation to the young people's societies and other clubs and organizations; (10) the religious life of the school and educational evangelism; (11) programs of teacher training both within the local church and in city institutes. A graded program of altruistic activity is offered and its relation to the worship and instruction phases is indicated. The course aims to present a workable program for the modern Sunday school based upon the assured results of advanced thinkers and workers in this field. Instruction is by means of textbooks, topics for special study, reports on local observation, and lesson outlines which guide the student in his study of these problems. The course will be of special value to superintendents, lay workers, and pastors who wish to learn more of the best Sunday-school methodology. Anyone who has had high-school training can pursue the course with profit. Prerequisite: if University credit is desired, "Elementary Psychology" or an equivalent course. Mj. MR. NOWLAN.

NOTE.—Related courses are offered in Philosophy, Psychology, Education, Sociology, and Comparative Religion.

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THE CORRESPONDENCE-STUDY DEPARTMENT

I. OFFICERS OF ADMINISTRATION

HARRY PRATT JUDSON, President of the University.

HERVEY FOSTER MALLORY, Secretary of the Correspondence-Study Department.

II. THE FACULTY

CHARLES HENRY BEESON, Ph.D., Professor of Latin.

ROBERT JOHNSON BONNER, Ph.D., Professor of Greek.

JAMES HENRY BREASTED, Ph.D., Professor of Egyptology and Oriental History;
Director of Haskell Oriental Museum.

ERNEST DEWITT BURTON, D.D., Professor and Head of the Department of New
Testament and Early Christian Literature; Director of the University
Libraries.

NATHANIEL BUTLER, A.M., D.D., LL.D., Professor of Education; Director of
Co-operation with Secondary Schools; Dean of University College.

SHIRLEY JACKSON CASE, Ph.D., Professor of New Testament Interpretation.

CHARLES JOSEPH CHAMBERLAIN, Ph.D., Professor of Botany.

HENRY CHANDLER COWLES, Ph.D., Professor of Plant Ecology.

EDGAR JOHNSON GOODSPEED, Ph.D., Professor of Biblical and Patristic Greek;
Assistant Director of Haskell Oriental Museum.

THOMAS ATKINSON JENKINS, Ph.D., Professor of the History of the French Lan-
guage.

LEON CARROLL MARSHALL, A.M., Professor of Political Economy; Dean of the
Senior Colleges; Dean of the School of Commerce and Administration.

GEORGE HERBERT MEAD, A.B., Professor of Philosophy.

FRANK JUSTUS MILLER, Ph.D., LL.D., Professor of Latin; Dean in the Junior
Colleges.

FOREST RAY MOULTON, Ph.D., Professor of Astronomy.

RICHARD GREEN MOULTON, Ph.D., Professor of Literary Theory and Interpreta-
tion; Head of the Department of General Literature.

GEORGE WILLIAM MYERS, Ph.D., Professor of the Teaching of Mathematics and
Astronomy.

HORATIO HACKETT NEWMAN, Ph.D., Professor of Zoölogy and Embryology;
Dean in the College of Science.

IRA MAURICE PRICE, Ph.D., LL.D., Professor of the Semitic Languages and
Literatures.

PAUL SHOREY, Ph.D., LL.D., Litt. D., Professor and Head of the Department
of Greek.

- GERALD BIRNEY SMITH, A.M., D.B., Professor of Christian Theology.
- THEODORE GERALD SOARES, Ph.D., D.D., Professor of Homiletics and Religious Education; Head of the Department of Practical Theology.
- JULIUS STIEGLITZ, Ph.D., Sc.D., Professor and Chairman of the Department of Chemistry; Director of Analytical Chemistry; Director of Laboratories.
- MARION TALBOT, A.M., LL.D., Professor of Household Administration; Dean of Women.
- JAMES WESTFALL THOMPSON, Ph.D., Professor of European History.
- JAMES HAYDEN TUPTS, Ph.D., LL.D., Professor and Head of the Department of Philosophy.
- CLYDE WEBER VOTAW, Ph.D., Professor of New Testament Literature.
- ERNEST JULIUS WILCZYNSKI, Ph.D., Professor of Mathematics.
- ERNEST HATCH WILKINS, Ph.D., Professor of Romance Languages.
- FRANCIS ASBURY WOOD, Ph.D., L.H.D., Professor of Germanic Philology.
- ROBERT E. PARK, Ph.D., Professorial Lecturer in Sociology.
-
- GEORGE RICKER BERRY, Ph.D., Extension Professor of the Semitic Languages and Literatures.
- ARTHUR CARLTON TROWBRIDGE, Ph.D., Extension Professor of Geology.
-
- EDWARD SCRIBNER AMES, Ph.D., Associate Professor of Philosophy.
- CHARLES READ BASKERVILL, Ph.D., Associate Professor of English.
- ALBERT DUDLEY BROKAW, Ph.D., Associate Professor of Geology.
- HARVEY A. CARR, Ph.D., Associate Professor of Experimental Psychology.
- WILLIAM CROCKER, Ph.D., Associate Professor of Plant Physiology.
- HENRI CHARLES EDOUARD DAVID, A.M., Associate Professor of French Literature.
- ELLIOTT ROWLAND DOWNING, Ph.D., Associate Professor of Natural Science.
- FRANK NUGENT FREEMAN, Ph.D., Associate Professor of Educational Psychology.
- MARCUS WILSON JERNEGAN, Ph.D., Associate Professor of History.
- WILLIAM JESSE GOAD LAND, Ph.D., Associate Professor of Botany.
- KURT LAVES, Ph.D., Associate Professor of Astronomy.
- ROLLO L. LYMAN, Ph.D., Associate Professor of the Teaching of English.
- JOHN WILDMAN MONCRIEF, A.M., D.D., Associate Professor of Church History.
- HAROLD GLENN MOULTON, Ph.D., Associate Professor of Political Economy.
- EMILY JANE RICE, Ph.B., Associate Professor of the Teaching of History.
- HAROLD ORDWAY RUGG, Ph.D., Associate Professor of Education.
- HERMANN IRVING SCHLESINGER, Ph.D., Associate Professor of Chemistry.
- FREDERICK STARR, Ph.D., Sc.D., Associate Professor of Anthropology; Curator of the Anthropological Section of Walker Museum.
- GEORGE LINNAEUS MARSH, Ph.D., Extension Associate Professor of English.
-
- NATHANIEL WARING BARNES, A.M., Assistant Professor of Commercial Organization.

- FREDERICK STEPHEN BREED, PH.D., Assistant Professor of Education.
J HARLEN BRETZ, PH.D., Assistant Professor of Geology.
ERNEST WATSON BURGESS, PH.D., Assistant Professor of Sociology.
WALTER EUGENE CLARK, PH.D., Assistant Professor of Sanskrit and Indo-European Comparative Philology.
CARSON SAMUEL DUNCAN, PH.D., Assistant Professor of Commercial Organization.
CHESTER NATHAN GOULD, PH.D., Assistant Professor of German and Scandinavian Literature.
HANS ERNST GRONOW, PH.D., Assistant Professor of German.
SAMUEL NORTHRUP HARPER, A.B., Assistant Professor of the Russian Language and Literature.
JAMES ROOT HULBERT, PH.D., Assistant Professor of English.
THOMAS ALBERT KNOTT, PH.D., Assistant Professor of English.
DAVID JUDSON LINGLE, M.D., PH.D., Assistant Professor of Physiology.
WILLIAM DUNCAN MACMILLAN, PH.D., Assistant Professor of Astronomy.
FRED MERRIFIELD, D.B., Assistant Professor in New Testament History and Interpretation.
THEODORE LEE NEFF, A.M., PH.D., Assistant Professor of French.
ADOLF CHARLES VON NOÉ, PH.D., Assistant Professor of German Literature.
MARTIN SPRENGLING, PH.D., Assistant Professor of Semitic Languages and Literatures.
EUGENE AUSTIN STEPHENSON, PH.D., Assistant Professor of Geology.
MORRIS MILLER WELLS, PH.D., Assistant Professor of Zoölogy.
-
- MYRON LUCIUS ASHLEY, PH.D., Extension Assistant Professor of Philosophy.
MABEL BANTA BEESON, A.M., Extension Assistant Professor of Latin.
FRANK MELVILLE BRONSON, A.M., Extension Assistant Professor of Greek.
ANA ENKE CALDERWOOD, PH.B., Extension Assistant Professor of Spanish.
LAETITIA MOON CONARD, PH.D., Extension Assistant Professor of Comparative Religion.
HARRIET CRANDALL DAVENPORT, A.M., Extension Assistant Professor of English.
ARNOLD BENNETT HALL, J.D., Extension Assistant Professor of Political Science.
FRANCES ADA KNOX, A.B., Extension Assistant Professor of History.
ANNIE MARION MACLEAN, PH.D., Extension Assistant Professor of Sociology.
EDWARD JAMES MOORE, A.M., PH.D., Extension Assistant Professor of Physics.
HERMON HARRISON SEVERN, A.B., Extension Assistant Professor of New Testament Literature.
ERNEST LYNN TALBERT, PH.D., Extension Assistant Professor of Psychology.
-
- CLARENCE EDWIN AYRES, PH.D., Instructor in Philosophy.
WILLIAM ERNEST CARY, PH.D., Instructor in Hygiene and Bacteriology.
SOPHIA HENNION ECKERSON, PH.D., Instructor in Plant Physiology.

EMERY FILBEY, PH.B., Instructor in Manual Training in the University High School.

GEORGE DAMON FULLER, PH.D., Instructor in Plant Ecology.

HARRY ORRIN GILLET, S.B., Principal of the University Elementary School.

CARL HENRY GRABO, PH.B., Instructor in English.

FRANKLIN WINSLOW JOHNSON, A.M., Principal of the University High School.

KATHERINE L. McLAUGHLIN, S.B., Supervisor of Grades in the Elementary School.

SARAH FRANCES PELLETT, A.M., Instructor in Latin in the University High School.

PAUL HERMAN PHILLIPSON, PH.D., Instructor in German.

JOSEPHINE CHESTER ROBERTSON, A.B., Head Cataloguer in the Libraries.

ARTHUR PEARSON SCOTT, PH.D., Instructor in History.

ELSIE AMY WYGANT, Instructor in Education.

CATHERINE QUARLES BASKERVILL, A.B., Extension Instructor in English.

JESSIE E. BLACK, PH.B., Extension Instructor in School Library Economics.

LUCY DRISCOLL, A.M., Extension Instructor in the History of Art.

EARL BIXBY FERSON, Extension Instructor in Drawing.

JOHN SHARPLESS FOX, PH.D., Extension Instructor in History.

JOSEPH FRANCIS CONNELLY, PH.B., Extension Instructor in Education.

CLIFTON DURANT HOWE, PH.D., Extension Instructor in Botany.

HENRY FREMONT KEEN, Extension Instructor in Accounting.

DANIEL PETER MACMILLAN, PH.D., Extension Instructor in Psychology.

EMMA SCHRADER, PH.M., Extension Instructor in General Literature.

AMY RACHEL WHITTIER, Extension Instructor in Design.

ELDON COBB EVANS, A.M., PH.D., Extension Associate in Political Science.

EDWARD ATWOOD HENRY, D.B., Extension Associate in the Old Testament Language and Literature.

KATHARINE ALLEN GRAHAM, PH.B., Assistant in English.

LIBBIE HENRIETTA HYMAN, PH.D., Research Assistant in Zoölogy.

ROY BATCHELDER NELSON, A.B., Assistant in Greek.

THOMAS GEORGE ALLEN, PH.D., Extension Assistant in Oriental Languages and Literatures.

LILIAN ERHART BRIDGENS, Extension Assistant in English.

LOUISE CLARK, Extension Assistant in Design.

IVAN SEYMOUR NOWLAN, B.TH., A.M., Extension Assistant in Practical Theology.

CLARENCE ELMER RAINWATER, A.M., Extension Assistant in Sociology.

ELSIE SCHOBINGER, A.M., Extension Assistant in the Romance Languages.

III. GENERAL INFORMATION

Extra-mural Teaching.—All non-resident work for credit is conducted through the Correspondence-Study Department.

1. Teaching by Correspondence.—Experience has shown that many subjects can be taught successfully by correspondence. Direction and correction can often be given as effectively in writing as by word of mouth. Obviously self-reliance, initiative, perseverance, accuracy, and kindred qualities are peculiarly encouraged and developed by this method of instruction.

2. Purpose and Constituency.—Through the Correspondence-Study Department the University offers a large number of the courses given in the classrooms of its different divisions so that those whose formal schooling has been interrupted may continue their studies. The aim is to extend as fast and as far as possible the means and privileges of academic training. Besides contributing to culture, many of the courses, because of their bearing on problems of everyday life, may be turned to immediate practical account.

The courses appeal especially to the following classes: (1) students preparing for college or professional schools; (2) college students who are unable to pursue continuous residence study; (3) grammar and high-school teachers who cannot avail themselves of resident instruction; (4) instructors in higher institutions who desire assistance in the advanced study of some subject; (5) professional and business men who wish to supplement their training; (6) ministers and Bible students who would fit themselves better to use the Scriptures; (7) parents uncertain how to deal wisely with their children—in short, anyone anywhere who desires broader knowledge or more thorough scholarship.

3. Method of Instruction.—Each correspondence course is designed to be equivalent to the corresponding residence course and contains therefore a definite amount of work. A **Major** (Mj.) calls for an amount of work which a student in residence would be expected to accomplish in twelve weeks, reciting five hours per week. A **Minor** (M.) calls for one-half as much work as a Major. The resident student who does full work completes three Majors every three months, but the correspondence student is allowed from twelve to fifteen months, according as he registers late or early in the quarter, for completing whatever number of Major or Minor courses he applies for (cf. § 6, *e* and *g*). On the other hand, he is permitted to finish courses as rapidly as is consistent with good work. Courses are of two kinds, formal and informal.

a) The "formal" course furnishes a systematic and progressive presentation of the subject in a given number of lessons (cf. § 6, *o*). Each lesson contains (1) full directions for study, including references to the textbooks by chapter and page; (2) necessary suggestions and assistance; (3) questions to test the student's methods of work as well as his understanding of the ground covered. After preparing for recitation the student writes his answers to the questions and mails them to the instructor, together with any difficulties which may have arisen during his study. This recitation paper is promptly corrected and returned. In like manner every lesson is carefully criticized by the instructor and returned, so that each student receives *personal guidance and instruction* throughout the course.

b) The "informal" course is designed for students who are pursuing studies of an advanced nature. The course is usually arranged between instructor and student to meet the particular needs of the latter. The formal lesson sheet is

dispensed with, but the course is carefully outlined by the instructor, and the student is required to present satisfactory evidence that the work is being properly done. This evidence may consist of a number of short papers on special themes, a thesis covering the whole work, or it may partake rather of the nature of ordinary correspondence. Courses are "formal" when not otherwise indicated.

4. Admission.¹—(a) No preliminary examination or proof of previous work is required of applicants for correspondence courses. Before matriculating or registering a student, however, the University does require certain information and reserves the right to reject applicants, or to recommend other courses than those chosen, if the data furnished on the application blank justify such action. If the applicant is rejected or the substitution recommended is not accepted by the student, all fees are refunded. The application blank will be supplied upon request. *In every case it should accompany the fee for a new course.*

(b) A correspondence student whose standing in one of the Colleges or Schools of the University has not been determined is ranked as an *unclassified student*.

5. Recognition for Work.—(a) A certificate is granted for the satisfactory completion of the recitation work in any Major or Minor course.

(b) Admission credit is given for courses covering college-entrance requirements which are satisfactorily completed and passed by examination.

(c) College credit is given for courses of a college grade satisfactorily completed and passed by examination (cf. § 6, b, 1).

(d) If the student has a record of residence work in the University, credit gained through correspondence courses is immediately transferred to that record; if not, it is held in the Correspondence-Study Department until the student secures such a record.

(e) See also "Regulations" (a) and (b) below.

6. Regulations.—(a) The University of Chicago grants no degree for work done wholly in absence. A *minimum* of nine Majors (three full quarters) in residence at the University of Chicago is an unvarying requisite for any degree.

(b) Correspondence courses are applicable to the requirements for the different degrees as follows: (1) The candidate for a Bachelor's degree (A.B., Ph.B., or S.B.) may do eighteen of the required thirty-six Majors of college work by correspondence. (2) The candidate for the medical degree (M.D.), or for the law degree (LL.B. or J.D.), or for the Master's degree (A.M. or S.M.) may not reduce the requirements for his degree *in absentia*, because the University gives no instruction in Law or Medicine by correspondence, and the maximum resident time and study requirement for the Master's degree does not exceed the minimum requirement (nine months and nine majors) for any degree. (3) The candidate for the Doctor's degree (Ph.D.) may substitute correspondence for residence work *only* on approval, in advance, of the head of the department in which his work lies. Three years of resident graduate study are expected for this degree. Very few non-resident students command the necessary library or laboratory facilities for graduate study.

NOTE.—The University of Chicago's Bachelor degree, or its full equivalent, is prerequisite for admission to candidacy for a Master's or a Doctor's degree. If a student presents a baccalaureate degree inferior to the University's degree by less than nine (9) Majors, he can make it equivalent by means of correspondence courses and thus be free to devote his entire time in residence to graduate work.

¹ If the student later comes to the University he must satisfy admission requirements (see *Circular of Information* of the Colleges and Graduate Schools, p. 17).

c) A student may begin a course for which he is prepared at any time, but he may not take more than three Majors during any period of three months nor more than one Major in any period of one month. His reports must be distributed with approximate evenness throughout the period of study. Reports may be refused by the secretary or by the instructor in the course concerned if the student attempts to compress his work unduly.

d) An undergraduate student may not carry on correspondence work while in residence without the written permission of the appropriate Dean.

e) A student is expected to complete all the courses for which he pays at any one time *within one year from the end* (i.e., March 23, June 23, September 23, December 23) of the quarter in which payment is made.

f) A student who, for any reason, does not report either by lesson or by letter within a period of ninety days may thereby forfeit his right to further instruction in the course.

g) Extension of time will be granted (1) *for a period equal to the length of time which a correspondence student spends in resident study at the University of Chicago*, provided due notice is given the secretary and the instructor at both the beginning and the end of such resident study; (2) *for one full year from the date of expiration of the course* if, on account of sickness or other serious disability, the student has been unable to complete the course or courses within the prescribed time (cf. § 6, e), provided (a) he secures the consent of the secretary and his instructor, and (b) pays \$4.00 for each Major course or \$2.00 for each Minor course he wishes to continue. Private arrangement for extension of time between the student and his instructor cannot be recognized by the Department.

h) In order to secure credit for a correspondence course, the student must pass an examination on it within six months from the end of the quarter in which he finishes the recitation work either at the University or, if elsewhere, under supervision which has been approved by the University.

i) During an instructor's vacation a substitute will be provided or the time for completing the course will be extended.

j) The fee for matriculation in the University (\$5.00) is required once, at the time of first registration, of each one who has not matriculated in the institution either as a resident or a correspondence student. The fee is general for the whole University.

k) The matriculation fee will not be refunded to a student whose application has been accepted (cf. § 4, a).

l) The tuition fee will not be refunded on account of a student's inability to enter upon or to continue a course.

m) The student must forward, with each lesson, postage (or, preferably, a stamped, self-directed envelope) for its return.

n) A student will be required to pay for but one Major of a Double Major (DMj.) course at a time unless he applies for both Majors.

o) Ordinarily a Major consists of forty and a Minor of twenty lessons; but there may be variations from this number in order to accommodate the work to the requirements of a particular course. Each course represents a definite amount of work (cf. § 3), the number of lessons into which it is divided being incidental.

p) A course announced as a Major may not be taken a Minor at a time.

q) Each correspondence course is equivalent to the corresponding residence course, and commands credit (cf. § 5) unless statement is made to the contrary.

r) All informal courses are Majors unless otherwise indicated.

7. **Expenses.**—(a) All fees are payable in advance.

b) The matriculation fee is \$5.00 (cf. § 6, j); the tuition fee for *each* Minor course is \$8.00; for one Major course, \$16.00. If a student registers *at the same time* for two Major courses the tuition fee is \$30.00; for three Major courses, \$40.00. No reduction is made for Minor or Review courses included in a combination. The tuition fee includes payment for the instruction sheets received. Books which cannot be borrowed (cf. § 10) must be purchased by the student. Ordinary textbooks are not loaned.

c) The student is required to inclose postage for the return of the lesson-papers (cf. § 6, m).

d) Money should be sent in the form of postal or express order or New York or Chicago draft, made payable to the University of Chicago. The Chicago clearing-house charges exchange on all other forms of remittance—15 cents on sums up to \$50.00.

8. **Method of Registration** (recapitulated).—(a) File with the Secretary of the Correspondence-Study Department a formal application for *each* course desired. The required application blank will be furnished upon request (cf. § 4, a).

b) *Forward with the formal application the necessary fees:* (1) \$5.00 for matriculation, if not matriculated in the University (cf. § 6, j); (2) \$8.00 for each Minor course, or \$16.00, \$30.00, or \$40.00, according as one, two, or three Major courses are applied for; (3) an additional fee for certain courses in the sciences.

9. Scholarships.¹

CLASS A.—Three scholarships, each yielding tuition in residence for one quarter (provided the regular charge for the same does not exceed \$40.00), are awarded annually on April 1 to the three students who have begun, completed, and passed the *greatest number* of Major correspondence courses (but at least four) that represent new advanced work, with a grade of B or better for each course, during the preceding twelve months. If two or more persons finish the same number of Majors, the scholarships will be awarded to those whose average grade for the courses in question is highest, and in case of a tie here, in the order in which they finish, beginning with the earliest.

CLASS B.—A scholarship yielding tuition in residence for one quarter (provided the regular charge for the same does not exceed \$40.00) is awarded to a student for *every four* Major correspondence courses that represent new advanced work which he has begun since April 1, 1904, completed, and passed with a grade of B or better for each course.

10. **Books, etc.**—For the convenience of students arrangements have been made through the usual channels of the University whereby supplies, such as books, maps, etc., which are needed in the different courses can be furnished at prices which will be quoted on application to the Correspondence-Study Department. Sometimes *books of reference* may be borrowed from the University libraries. Applications for loans should be addressed to the Director of Libraries of the University of Chicago.

¹ Scholarships are good for any quarter. Two Minors are equivalent to one Major.

IV. THREE PROGRAMS OF HIGH-SCHOOL WORK

The 15 units¹ of high-school work required for admission to the University must include:

- 3 units of English.
- 7 units of subjects in Groups 1-6 (see below), to include *at least* 3 units in a single group and *at least* 2 units in another single group.
- 5 units of any subjects for which credit toward its diploma is given by an approved school.

To fulfil admission requirements most effectively and to leave the maximum freedom of election in college, the following programs are recommended in preparation for college work leading to the different Bachelor degrees:

A.B.	Units	Ph.B.	Units	S.B.	Units
English.....	3	English.....	3	English.....	3
Greek.....	3	One foreign language 3 (or 2)		Science.....	3 (or 2)
Latin.....	4	History.....	2 (or 3)	Mathematics.....	2 (or 3)
Mathematics.....	2	Mathematics.....	2	One foreign language.....	2
Electives from Groups	2	Science.....	2	History.....	2
3, 4, and 6.....	3	Electives from Groups 1-6	3	Electives from Groups 1-6	3
Total.....	15	Total.....	15	Total.....	15

Group 1.—Greek.

Group 2.—Latin.

Group 3.—Modern Language other than English (French, German, Spanish).

Group 4.—History, Civics, Economics, Commercial Law.

Group 5.—Mathematics.

Group 6.—Science (Physics, Chemistry, Botany, Zoölogy, General Biology, Physiology, Physiography, Geology, Astronomy, Commercial Geography).

Any combination of the subjects within each group is permitted but not less than $\frac{1}{2}$ unit of any subject may be offered. Not less than 1 unit of Algebra, Plane Geometry, Physics, Chemistry, or a language may be offered. To meet the 2 or the 3 units-in-a-single-group requirement in Groups 1, 2, or 3, the work offered must all be in *one* language.

Correspondence-Study Courses Which Offer High-School Work²

	Units
Political Economy—"Bookkeeping"	$\frac{1}{2}$
History—"Outline History of Antiquity to 376 A.D." (A and B)	1
"Outline History of Europe" (A and B)	1
"Outline History of England" (A and B)	1
"Outline History of the United States" (A and B)	1
Greek—"Elementary Greek" (A and B)	1
"Xenophon: <i>Anabasis</i> " (A and B)	1
"Homer: <i>Iliad</i> " (A and B)	1
Latin—"Elementary Latin" (A and B)	1
"Caesar: <i>De Bello Gallico</i> " (A and B)	1
"Cicero: <i>Orationes</i> " (A and B)	1
"Vergil: <i>Aeneid</i> " (A and B)	1
French—"Elementary French" (A and B)	1
"Intermediate French" and "Advanced French"	1
Spanish—"Elementary Spanish" and "Intermediate Spanish"	1
German—"Elementary German" (A and B)	1
"Intermediate German" and "Elementary Prose Composition"	1
"German Idioms and Synonyms" and "Modern German Dramas"	1
English—"Prep. English Composition—A" and "Prep. English Literature—A"	1
"Prep. English Composition—B" and "Prep. English Literature—B"	1
"Prep. English Composition—C" and "Prep. English Literature—C"	1
Mathematics—"Elementary Algebra" (A, B, and C)	1 $\frac{1}{2}$
"Plane Geometry" (A and B)	1
"Solid Geometry"	$\frac{1}{2}$
Physics—"Elementary Physics" (A and B)	1
Physiography—"Physical Geography"	$\frac{1}{2}$
Drawing—"Freehand Drawing"	$\frac{1}{2}$
"Projective Geometry"	$\frac{1}{2}$

¹ A unit represents 120 sixty-minute recitation periods and may be made up by two Majors.

² These courses, when completed and passed, will be accepted in lieu of entrance requirements. Many of them will yield college credit if not offered for admission.

V. THE REQUIREMENTS FOR A BACHELOR'S DEGREE

A total of 66 Majors representing four years (15 units, approximately 30 Mjs.) of high-school work and four years (36 Mjs. with 72 "grade points") of college work are required for a Bachelor's degree. Any amount of the high-school work and as much as one-half (18) of the 36 Majors of college work may be done by correspondence.

REQUIRED COLLEGE WORK

1. *Specified Courses*.—"English I" and "English III."
2. *Continuation Courses*.—Three Majors of that subject in which 3 (or 2) units of admission work are offered or of that subject in which one unit of Senior high-school work is offered.
3. *Distribution Courses*.—Enough Majors in each of the following groups to make the total (high-school+college) credit 4 Majors (=2 units):
 - I. Philosophy, History, and the Social Sciences.
 - II. Language other than English (i.e., Greek, Latin, French, German, or Spanish). The four Majors must be in *one* language.
 - III. Mathematics.
 - IV. Science.

4. *Sequences*.—(a) One *principal* sequence of at least 9 coherent and progressive Majors taken in one department or in a group of departments. (b) One *secondary* sequence of at least 6 Majors selected from a different department or group of departments. These sequences must have the approval of the Dean. The work in the Divinity School, the Law School, the Courses in Medicine, or the College of Education may be counted in satisfaction of either sequence.

The degree of A.B. is conferred when the principal sequence consists of 11 Majors of Latin and 9 Majors of Greek (7 if all are of a college grade; cf. p. 28 of this circular), including entrance work. A secondary sequence of 6 Majors is also required.

The degree of Ph.B. is conferred when the principal sequence has been taken in any one of the subjects from Philosophy to General Literature, inclusive.

The degree of S.B. is conferred when the principal sequence has been taken in any one of the subjects from Mathematics to Hygiene and Bacteriology, inclusive.

Mathematics may, at the option of the student, be used as the principal sequence for either the Ph.B. or S.B. degree.

No courses counted in satisfaction of entrance requirements, or of the provisions of paragraphs 1 and 3, shall count in making up the principal and secondary sequences, except in the case of the 9- and 11-Major groups in the requirements for the A.B. degree.

Not more than 15 Majors may be taken in college in one department.

VI. COURSES OF INSTRUCTION

Note.—The number in parenthesis immediately following the title of a course is that of the equivalent in residence.

PHILOSOPHY

1. *Logic* (3).—The topics considered in this course are those usually included in a survey of logic—such as the concept; the various forms of judgment; inductive and deductive aspects of reasoning; the nature and use of the hypothesis; methods of inductive inquiry and experimental investigation; syllogisms and

fallacies, etc. Stress will be laid on the functional aspect of thought-processes and attention will be called to underlying psychological principles. The aim throughout will be to emphasize the vital connection between logic and the practical problems of everyday life and to show that thinking in the strictly logical sense is a constructive process arising out of the needs of the individual and finding its value in enabling him to organize more adequately his experience and to deal more effectively with the subject-matter with which his thinking is concerned. The student may expect, accordingly, to acquire not only a practical knowledge of logic and a certain training in critical habits of thought but also a good basis for subsequent philosophical study. While "Elementary Psychology" is a helpful preliminary, the course may be taken with profit by those who are prepared for thorough study. Mj. ASSISTANT PROFESSOR ASHLEY.

2. Ethics (4).—An introductory course intended (1) to familiarize the student with the main aspects of ethical history and theory, and through this (2) to reach a method of estimating and controlling conduct. The main divisions of the course are (a) the general nature of moral conduct; (b) a study of the evolution of the moral problem from primitive life to the present; (c) a comparative study of current ethical theories; (d) application of the foregoing to present problems of social and individual life. The course will be based on the text of Dewey and Tuft's *Ethics*, with collateral study of Mill's *Utilitarianism*, Kant's *Metaphysics of Ethics*, and Spencer's *Data of Ethics*. Mj. ASSISTANT PROFESSOR ASHLEY.

3. Aesthetics (6).—This course deals with the following elementary aspects of beauty and of art forms: (1) psychological principles involved in the appreciation of beauty and its expression; (2) the character of primitive art; (3) the perception of form and the nature of rhythm; (4) description of the special arts—painting, sculpture, architecture, music, and the drama; (5) certain general relations of the aesthetic to other types of experience. Prerequisite: "Elementary Psychology" or an equivalent course. Mj. ASSISTANT PROFESSOR TALBERT.

4. Introduction to Philosophy (7).—An elementary treatment of important problems of reflective thought. The Greek point of view regarding ethics, logic, art, mind, and education is reached through a study of Plato's *Republic*. Leading philosophic attitudes of modern thinkers are then considered. Mj. ASSISTANT PROFESSOR TALBERT.

5. Greek and Mediaeval Philosophy (10).—This course is designed (1) as a survey of the history of thought, considered in its relations to the sciences, to literature, and to social and political conditions, and (2) as an introduction to philosophy through a more careful study of some of the most important systems. Special attention will be given to the study of the more important dialogues of Plato and to Aristotle's *Ethics*. Mj. PROFESSOR TUFTS AND DR. AYRES.

6. Modern Philosophy (11A).—Descartes to Hume, with special study given to Descartes' *Meditations*, Locke's *Essay*, Berkeley's *Principles of Human Knowledge*, and a portion of Hume's *Treatise on Human Nature*. Mj. PROFESSOR TUFTS AND DR. AYRES.

7. Introduction to Kant (11B).—Watson's *Selections* and Mahaffy and Bernard's editions of *The Critique of Pure Reason* and *Prolegomena* will be made the basis of the work. The course will be opened with a brief study of the thought of Leibnitz, for which Dewey's *Leibnitz* will be used. This will be followed by a brief outline of Kant's early development and a detailed study of the more important portions of *The Critique* as found in Watson's *Selections*. Prerequisite: course 6 or its equivalent. Mj. PROFESSOR TUFTS AND DR. AYRES.

8. Movements of Thought in the Nineteenth Century (12).—The course continues in less technical manner the history of modern philosophy: romanticism as represented by Rousseau and certain poets; idealism in German philosophy and in Carlyle; utilitarianism; positivism; transcendentalism as seen in Emerson's view of nature and man; the doctrine of evolution, particularly in its relation to human society and the problems of morality as considered by Huxley; the relation of the scientific to the philosophic point of view as defined by Royce.

Those who register for the course should have access to a good library or be prepared to purchase a number of books. Prerequisite: two of the three courses, 5-7. Mj. PROFESSOR TUFTS.

9. Contemporary Philosophy (13).—Selected works of Bergson, James, and other writers representing the several schools of thought are studied in detail, the purpose being to illustrate types of philosophic thought. Some of the problems considered are (1) the relation of philosophy to science; (2) the nature of freedom, space, and time; (3) the definition of truth; (4) the contrasting standpoints of absolutism and pragmatism. This course furnishes the student an opportunity to read the serious thinkers of the day who are now exerting influence and to formulate by comparison and criticism a point of view of his own. Mj. ASSISTANT PROFESSOR TALBERT.

10. Evolution and Modern Thought.—To trace the important consequences of Darwin's theory and method is the object of this course. Starting with an outline of the elements of Darwin's hypothesis, attention is first directed to the history of the English development, followed by a consideration of the contributions of selected European and American writers. Ethics, politics, sociology, logic, aesthetics, and psychology are the fields in which the influences of the doctrine of evolution are considered. The conclusion of the study suggests the way in which the concept of evolution affects general philosophical attitudes as expressed by recent schools of philosophy. Since the course covers an extensive field, it is desirable for the student to select a special problem for more detailed study. To avoid the necessity of a large library, the lesson notes contain fuller discussions than is ordinarily the case. Mj. ASSISTANT PROFESSOR TALBERT.

11. Evolution of Morality (20).—A study of the historical development of the moral life and of moral standards in relation to the social, economic, and political conditions, and also to custom, law, and religion. The course will be based largely upon Hobhouse's *Morals in Evolution*, with readings from Sumner's *Folkways* and Westermarck's *Origin and Development of the Moral Ideas*. Mj. PROFESSOR TUFTS AND DR. AYRES.

12. Intellectual Background of the Great War (12A).—A survey of ideas lying back of the governments, social structure, religion, industry, science, and art of Europe during the last century and their relations to the issues of the present war. Mj. PROFESSOR MEAD.

Hindu Philosophy.—(Cf. description under Comparative Philology 6.) Mj. ASSISTANT PROFESSOR CLARK.

PSYCHOLOGY

1. Elementary Psychology (1).—This course takes up the general study of mental processes. It aims to train the student to observe the processes of his own experience and those of others, and to appreciate critically whatever he may read along psychological lines. It is introductory to all work in philosophy and pedagogy and is an important part of equipment for historical and literary interpretation. Mj. ASSOCIATE PROFESSOR CARR.

2. Advanced Psychology (11).—This course presupposes such a familiarity with the subject-matter of psychology as may be gained from course 1 or from intimate acquaintance with Angell's *Psychology*, Ogden's *An Introduction to General Psychology*, Royce's *Outlines of Psychology*, Titchener's *An Outline and Primer of Psychology*, or Yerkes' *Introduction to Psychology*. It may then properly be described as a continuation of the study or an advance upon an elementary presentation of the science with a view to further grounding in methods and a reconsideration of some salient problems in the light of recent specialized studies. Mj. DR. MACMILLAN.

3. Psychology of Thinking (introductory course).—The purpose of this course will be to investigate the character and function of thinking. Thinking will not be regarded in accordance with popular usage as a common term for all sorts of

imagery but will be treated as a reflective process, which arises because of difficulties in our experience and has its object and justification in their solution. The psychology of thinking will include, therefore, (1) a preliminary study of conduct or behavior, with a view to determining the conditions which give rise to problems and reflective processes, and (2) a more detailed account of the way in which thinking proceeds in our attempt to solve these problems. In connection with the general investigation various applications to education, science, and practical affairs will be pointed out—partly for the purpose of illustration and partly for the value which the student who is interested in these fields will derive from the point of view which the course will tend to develop. No special preparation is required as a prerequisite, but any work which the student may have had in biology or psychology should be of considerable assistance. Mj. ASSISTANT PROFESSOR ASHLEY.

4. Social Psychology (4).—A study of (1) groups, institutions, and the innate endowment of human nature; (2) effect upon mind of interpersonal contact; (3) interpretation of the concepts of the social psychologists, such as instinct, imitation, and suggestion. Constant practical applications to education and politics are made. Mj. ASSISTANT PROFESSOR TALBERT.

5. Psychology of Religion (5).—Emphasis is laid on the origins of religion in primitive society, the function of religion from psychological and sociological points of view, and its relation to science and democracy. Part I treats the salient aspects of primitive religion—as custom, taboo, magic, ceremonial, myth, spirits, sacrifice, and prayer. Part II discusses the evolution of religion in the individual from childhood to maturity; the psychology of conversion and religious education are important topics. In Part III the wider aspects of religion are studied: the value and limitations of sects, the nature of religious genius, non-religious persons and the difference between the religious attitude of primitive man and the attitude of the modern individual. Throughout the course the purpose is to consider religion as a normal phenomenon related to human values and institutions and having an identical function from past to present, notwithstanding vast changes in its forms and doctrines. Mj. ASSOCIATE PROFESSOR AMES AND ASSISTANT PROFESSOR TALBERT.

Social Groups.—(Cf. description under Sociology 5.)

EDUCATION AND METHODS IN DIFFERENT SUBJECTS

(For courses see pp. 61-71)

POLITICAL ECONOMY

1. Principles of Economics I: Industrial Society (0).—This course presents a general survey of industrial society, its structure, its institutions, its operations. As a basis for comparative study, the first part of the course examines briefly the structures of mediaeval industrial society and the evolution of modern capitalistic industry. The second part of the work deals with certain outstanding features of the present industrial society, such as private exchange co-operation; the pecuniary organization of society and the financial institutions resulting therefrom; specialization and interdependence; the significance of technology, using machine industry as an illustrative case; speculative industry, risk and risk bearing; the position of the worker under a wage system in capitalistic machine industry; concentration in the sense of large-scale production; concentration of the ownership of wealth and income; concentration of control of industry; impersonal relations; the guidance of economic activity. The third part of the course is concerned with some underlying assumptions of our present régime, such as private property, competition, and the social control of industrial activity. The course is designed to serve as an introduction to the later work in economics, which is so arranged as to constitute progressively more intensive studies in the field here rapidly surveyed. In connection with course 2 it serves as a general introduction to the courses in business. Mj. PROFESSOR MARSHALL AND ASSISTANT.

2. Principles of Economics II: Value and Distribution in Industrial Society (1).—This course is really a continuation of course 1, being designed to work out the principles of value, including those determining rent, wages, interest, and profits in our pecuniarily organized society. It is prerequisite to all later work in economics and is open to students who have taken satisfactorily, either in high school or in college, course 1. Mj. PROFESSOR MARSHALL AND ASSISTANT.

3. The Financial Organization of Society (3).¹—The purpose of this course is to give the student an understanding of the nature and work of the various types of financial institutions in the modern business world, of the forces that have led to their development, and of their relation to the organization of industrial society. The principal forms of financial institutions covered are coinage and monetary systems; credit; commercial banks; savings banks; bondhouses; trust companies; stock exchanges; and the various forms of co-operative credit associations. From one point of view the corporation and the insurance company are also financial institutions, and hence a brief study of their functions is included. Each of these institutions plays its own part in the industrial system, and together, in their many interrelations, they make up the financial structure of society. The course, therefore, is not a mere series of topical studies; it is rather a general survey of industrial society in terms of the functions of its financial institutions. Mj. ASSOCIATE PROFESSOR MOULTON.

4. General Survey of Commercial Organization (83).—This course includes a survey of the methods and problems connected with the marketing of (1) raw materials and (2) of finished products. A study is made of the physical and geographical environment of the productive regions to discover the commercial problems that rise from it. This study deals particularly with farm products, mineral products, forest products, and sea products. In this connection use is made of simple statistical methods in presenting data relating both to the productive regions and to the market. In dealing with manufactured goods the course will consist largely of a consideration of the general problems confronting a merchant with goods to sell. Some of these problems are (1) the organization of a business; (2) duties and responsibilities of the sales manager, the advertising manager, and the advertising agency; (3) application of scientific principles to commercial analysis; (4) location; (5) purchasing problems; (6) stock plans; (7) "jobber-mix-ups"; (8) the rise of the new retailer, such as the department store, the chain store, the mail-order house, the co-operative store; (9) price policies; (10) price maintenance and credits; (11) selection and organization of sales force; and (12) the place of advertising. Certain well-organized markets, such as stockyards, grain exchanges, produce markets; and certain specialized industries, such as mercantile warehouse, cold storage, and transportation, are studied in detail. The aim of the course is to define and outline the general principles of marketing goods and to study these principles through the medium of concrete cases. It is desirable that the student should learn how to observe the business activities around him and to interpret the significance of the things which he sees. In this way every market center can be made into a laboratory for the study of commercial problems. Mj. ASSISTANT PROFESSOR DUNCAN.

5. Business Communication (85A).—A study of the communicating activities of business and training in the presentation of material for business purposes. Since effective communication in business requires a close knowledge of human nature, calls for pictures and diagrams as well as words, and often involves the use of type, this course makes a study of the psychological, graphic, rhetorical, and typographical aspects of business communications. No one medium or form is analyzed exhaustively, but the technique which is common to all forms of business communication is discussed and illustrations are sought among a wide variety of forms—reports, letters, folders, booklets, cards, signs, newspaper and magazine advertisements, window displays, catalogues, house organs, charts, etc. The practice work is organized around material, attention, interest,

¹ Not given in 1918-19.

understanding, belief, memory, action, and good-will. It includes the assembling of data from printed sources and field work, reports, letters, advertisements, editorials, and business articles. In the case of salesmen, correspondents, copy-writers, secretaries, house-organ editors, executives, commercial teachers, and others whose interest in this course is specialized, the readings and practice work assigned will be adapted as far as possible to the individual student. Prerequisite: "Elementary Psychology" and "English I" or their equivalents. Mj. ASSISTANT PROFESSOR BARNES.

6. Business Correspondence (86A).—This course offers intensive training in the writing of business letters with some discussion of the problems of management connected with correspondence. The best business practice of the day is studied through readings from many sources and specimen letters. Through a series of graded-letter problems the student has an opportunity to apply the principles of psychology and to develop judgment on points of business policy. This practice work includes letters of acknowledgement, confirmation, instructions, inquiry, introduction, recommendation, request, compliance, refusal, complaint, adjustment, application, and collection; also individualized sales letters and a few sales forms. The course presupposes the ability to write English which is correct and generally effective. Mj. ASSISTANT PROFESSOR BARNES.

Economic and Commercial Geography.—(Cf. description under Geography 1.) Mj.

Economic History of the United States.—(Cf. description under History 22.) Mj. DR. FOX.

ACCOUNTING

7. Bookkeeping.—This course gives a full treatment of the underlying principles of bookkeeping. Its purpose is to acquaint the student with the theory and nature of accounts. The subjects treated will be (1) forms of accounts, (2) books used in accounting, (3) mode of handling commercial papers, (4) the recording of transactions, and (5) double-entry methods in retail business. In the first half of the course a retail proprietary business is conducted and properly closed. Following this a partnership is opened, introducing a new line of trade and distributing profits proportionately among partners. All principles presented are practically illustrated by a series of transactions that the student will be required to enter in a set of forms which accompany the textbook required in the course. Prerequisite: a working knowledge of arithmetic. [This course commands admission credit only.] Mj. MR. KEEN.

8. Wholesale Partnership Accounting.—This course follows course 7 and is designed for students who have completed that course or who are familiar with the principles of bookkeeping therein enunciated. The articles of co-partnership are introduced and explained; the net profits or losses are carried to the partners' accounts and the books formally closed. New accounts pertaining to a wholesale trade are taken up in addition to those previously studied. Special attention is given to the method of handling invoices and sales by the loose-leaf system. Also the sales ledger with its controlling account, the bills-receivable and the bills-payable books, are introduced. A system of keeping departmental costs is fully carried out, showing a comparison of the costs and sales in the several departments in the business. As in course 7, the student is required to do the practical work in recording transactions and handling the commercial papers pertaining thereto. Mj. MR. KEEN.

9. Corporation Accounting.—This course provides a tabulated study of the laws of all the states with reference to the formation and conduct of corporations. Then follow the opening of a set of corporate books under various conditions; the conversion of a partnership into a corporation; the treatment of good will as a resource; the manner of issuing, transferring, and canceling stock; the keeping of all special account books used in corporate accounting; the making of balance sheets and the peculiar items composing them; the sources of income, the declaring of dividends, reserve fund, surplus, depreciation, and the

closing of the books for a fiscal period. The student is required to record the operations of a manufacturing corporation for two financial periods, thus illustrating the foregoing principles, and also to conduct the payment of all obligations by the voucher system. Incidental to record sheets, and in connection with special references given, the discussion of problems related to corporate accounting is called for. Prerequisite: course 7 or its equivalent. Mj. MR. KEEN.

10. Cost Accounting.—This course is designed to give a detailed analysis of that type of accountancy which deals particularly with the various expenses incident to preparing products for the market. All underlying principles are duly outlined, and their interrelation and application are illustrated. Both department method and cost method are analyzed, and their advantages are shown. A synthetic set of problems is used to introduce the working out of costs and to reflect the principles, theoretically discussed, as they are actually involved in the process of manufacturing. Following the introductory examples is given the actual work of a large factory during two months of its operation. All transactions, from organization to closing of accounts, are recorded in the most systematic and thorough manner. In conjunction with this laboratory work papers on office and shop investigation are called for. Prerequisite: course 9 or its equivalent. Mj. MR. KEEN.

11. Bank Accounting.—This special form of accountancy is treated in conformity with thoroughly modern practice in banks. The text used has been compiled recently by an eminent certified public accountant and embodies both practical experience and ample investigation. The development of the lessons is such as to enlist and hold the student's interest. The basis of banking is shown. Exercises in statements of credit are given. Illustrated exercises in opening the books of a bank are preliminary to three periods of specific bank transactions which must be posted. The books will then be closed and all statements made. Prerequisite: course 7 or its equivalent. Mj. MR. KEEN.

POLITICAL SCIENCE

1. Civil Government (1).—This course is devoted to an analysis of the organization and activities of the American government, local, state, and national. Some of the topics treated are (1) the historical foundations of American institutions; (2) the evolution of federal and state constitutions; (3) the development of political parties and party machinery; (4) nominations and elections; (5) the organization, powers, and duties of the executive, legislative, and judicial departments of the federal, state, and local governments; (6) city government; (7) territorial government. Emphasis is placed upon the actual work governments perform. Mj. DR. EVANS.

2. Elements of Business Law.—This course deals with the following branches of private law: (1) contracts; (2) sales; (3) bills and notes; (4) agency; (5) partnership; (6) private corporations; (7) bailments; (8) guaranty and suretyship. These are the subjects most closely connected with the ordinary transactions of business. The general doctrines and underlying principles of these branches are discussed and analyzed and their application illustrated by actual cases. The purpose of this course is twofold: (1) to give to the man of business a knowledge of the general character and extent of his legal rights and duties; (2) to give to the general student an introduction to the study of the nature and doctrines of American private law so far as they are illustrated in the subjects treated. Mj. ASSISTANT PROFESSOR HALL.

3. Elements of International Law.—A study of the rules observed by civilized nations in their relations with each other. The course includes a general consideration of the history and development of international law and a more detailed study of the subject in its three fundamental divisions of peace, war, and neutrality. Some of the topics treated are the nature, sources, and divisions of international law; the intervention of one nation in the affairs of another;

the rights and duties of nations in connection with property; the extent and nature of a nation's jurisdiction over its territory, subjects, and public and private vessels; the rights and duties of diplomacy; modes of warfare; recognition of belligerency; effect of war on treaties; rules of war on land and sea; rights and duties of neutral states; blockade; contraband of war, etc. The course is not strictly technical in character, and should prove of value to those desiring a better understanding of current international affairs, as well as to lawyers and teachers of history and political science. The work will be based on a standard text, supplemented by a book of cases on international law. Mj. ASSISTANT PROFESSOR HALL.

4. Constitutional Law in the United States.—A study of the principles of constitutional law as they have been developed in relation to the federal constitution and to some of the more important provisions of the state constitutions of the United States. The general topics discussed are (1) the nature of American constitutional law; (2) making and changing of the American constitution; (3) separation of powers; (4) function of judiciary in enforcing constitutions; (5) political rights; (6) personal and religious liberty; (7) protection to persons accused of crime; (8) due process of law and equal protection of the law in regard to procedure, the police power, power of taxation, and the right of eminent domain; (9) laws impairing the obligations of contracts; (10) powers of the federal government and their exercise; (11) regulation of commerce; (12) inter-governmental relations; and (13) jurisdiction of the federal courts. This course is based upon the study of actual cases, which, wherever practicable, have been so selected and arranged as to show not only the law as expounded by the courts today but also its historical development. This is supplemented with the text, which gives an exposition of the general rules derived inductively from a study of the cases. As far as possible technical terms are avoided, so that the course will be of equal value to the general student, the political scientist, and the lawyer. Mj. ASSISTANT PROFESSOR HALL.

NOTE.—Related courses are offered in Political Economy, History, and Sociology.

HISTORY

ACADEMY

The outline courses 1-4 are designed to meet college-entrance requirements in ancient, European, English, and American history, respectively. For A and B together, of each course, one unit of admission credit is allowed. The suggestions for study are made very definite as helps to beginning students and as an outline for high-school teachers.

1. Outline History of Antiquity to 376 A.D.—

A. Oriental and Greek History to 146 B.C.—A general narrative and descriptive history of Greece to the Roman conquest, with a brief introductory sketch of the oriental nations that especially influenced Greek civilization. Mj.

B. Roman History to 376 A.D.—A general view of Roman history from the early Republic to the establishment of the later Empire in the fourth century, paying special attention to the government and institutions of the latter as a basis for an intelligent study of the mediaeval period. Mj.

ASSISTANT PROFESSOR KNOX.

2. Outline History of Europe (376-1900).—

A. The Decline of the Roman Empire to the Renaissance (376-1500).—This course includes a study of the essentials in mediaeval European history from the fall of the Western Roman Empire to the Reformation. Mj.

B. The Reformation to the Present (1500-1900).—The course aims to give the student a general understanding of the principal territorial changes, national policies, economic conditions, and intellectual interests of Europe during the last 400 years. Mj.

ASSISTANT PROFESSOR KNOX.

3. Outline History of England.—

A. *English History to 1603*.—An introductory study of the origin and formation of the English nation to the death of Elizabeth. Besides tracing the outlines of political and constitutional development, the course deals briefly with social and institutional history and with the growth of civilization and culture. Mj.

B. *English History from 1604 to the Present*.—Politically and constitutionally the course treats of the rise of Parliament in the seventeenth century, the growth of cabinet government in the eighteenth century, and the growth of popular control over Parliament in the nineteenth century. The colonial expansion of England, the growth of the British Empire, and the main facts and results of the industrial revolution are studied. Mj.

Dr. Fox.

4. Outline History of the United States.—

A. *American History to the Formation of the Constitution (1492-1788)*.—The course traces the history of the English colonies on the Atlantic coast from the planting to their union under a written constitution. Political and social institutions in the colonies and such economic conditions as affected their development are studied with some care. European rivalries and colonial wars are made subordinate to their results. Other main topics are the relations of the colonies to the mother-country and to each other; their defense of "the rights of Englishmen" in the face of British colonial policy after 1760; the Revolution and independence; the difficulties of forming a permanent political union; the Articles of Confederation and their failure; the Constitution. Mj.

B. *The Nation under the Constitution (1789-1914)*.—Up to the Civil War the course treats of the organization of the new government; foreign and domestic problems; the services of the Federalists and their overthrow; Jeffersonian policies; the War of 1812 and results; political and economic reorganization; westward extension and the rise of national democracy under Jackson; the Monroe Doctrine and territorial expansion; the slavery controversy and the triumph of nationalism over sectionalism in 1865. Following the Civil War the chief topics are political and economic readjustments to 1877; industrial development; economic problems and legislative regulation; civil service and political reform; the growth of socialistic legislation; the Spanish War and "imperialism"; the Wilson policies. Mj.

Dr. Fox.

COLLEGE

5. *History of Antiquity to the Fall of the Persian Empire (A6)*.—In this course the history of the nations of the ancient East—Babylonia, Egypt, Assyria, Syria, Israel, etc.—is studied in its development from the beginnings of organized political life to the fall of the world-empire of Persia. A large amount of reading is expected of students. Mj. ASSISTANT PROFESSOR KNOX.

6. *History of Greece to the Death of Alexander (A12)*.—This course presupposes a general knowledge of the external facts of Greek history (course 1A), and undertakes to conduct the student into an investigation of the underlying principles and forces which condition the outward events. It is intended for those who wish to go thoroughly into the subject and are willing to give their time and thought to it. Mj. ASSISTANT PROFESSOR KNOX.

7. *History of Rome to the Antonines (A13)*.—A general view of the development of Rome to the close of the first century A.D., with special emphasis on imperial expansion and provincial government. Mj. ASSISTANT PROFESSOR KNOX.

8. *European History: The Mediaeval Period (376-1300) (1)*.—The invasion and settlement of the barbarians, the revival of the empire, the growth of the papacy, the struggle between these two, Mohammed and his religion, the Crusades, the rise of nationalities, and mediaeval institutions will be studied. The needs of the teacher as well as those of the general student are met in this course. Mj. ASSISTANT PROFESSOR KNOX.

9. European History: The Later Mediaeval and Early Modern Period (1300-1715) (2).—The course opens with a study of Europe during the period of the Renaissance and extends to the reconstruction of Europe at Utrecht. Besides the Renaissance, the chief topics studied are the Reformation and its results; the growth of national states; the "wars of religion" to 1648; the ascendancy of France; the English constitutional struggle of the seventeenth century, and the colonial expansion of Europe following the period of exploration and discovery. Mj. Dr. Fox.

10. European History: The Later Modern Period (1715-1910) (3).—In the eighteenth century the principal topics studied are the rise of Prussia and Russia; the colonial supremacy of England; the ancient régime in Europe; the era of the French Revolution and Napoleon. Following this the course will treat the political reconstruction of Europe in 1815, political and constitutional reform, the unification of Italy and the formation of the German Empire, the Balkan problem, the industrial revolution, European imperialism, and the growth of democracy and socialism. Stress will be laid on the economic factors of modern history. The course furnishes a general preparation for the study of the Great War. Mj. Dr. Fox.

11. Europe during the Renaissance (1250-1500) (B6).—A survey study of the period of the Renaissance in Europe. In addition to a general understanding of important events, emphasis is laid upon exploration and discovery; the growth of nationality; the expansion of the Ottoman Empire; commercial and industrial conditions, and the prominent intellectual and religious movements. Prerequisite: course 8 or its equivalent. Mj. Dr. Fox.

12. Europe during the Reformation (1517-1648) (C4).—This course is a study of the causes, events, and results of the Reformation in Europe. Much attention will be given to the political, social, and economic phases of the movement, the inseparable religious questions being discussed only so far as is necessary to an understanding of the period. Prerequisite: course 9 or its equivalent. Mj. Dr. Fox.

13. The French Revolution and the Era of Napoleon (C6).—The ground will be cleared for the history of the period by a careful study of the institutions of the Old Régime, in which the remoter causes of the Revolution will be discovered. A consideration of the more immediate causes and the attempts at reform will introduce the Estates General. The Revolution ran through three periods which answer to the National Assembly, the Legislative Assembly, and the Convention, to the extreme of a red democracy. Three more periods, corresponding to the Directory, the Consulate, and the Empire, see France return to a military absolutism under Napoleon. The greatest emphasis will be laid upon the institutional changes induced by the French Revolution, and attempt will be made to show the constructive work of the Revolution and of Napoleon. Its importance as one of the greatest generic events of the world's history will give the course a significance wider than France alone. It is desirable that the student be familiar with the outlines of modern European history. Prerequisite: course 9 or its equivalent. Mj. PROFESSOR THOMPSON AND DR. FOX.

14. The Expansion of Europe in the Nineteenth Century (C10).—Considers not only the extension of political control of European nations and the movement of European population to all parts of the world, but also other aspects of the movement by which Europe has touched and modified every part of the globe: missions, trade, investment of capital, etc. European activities outside of Europe are emphasized. A brief review of the earlier stages of expansion is followed by more detailed study of (1) the development of British colonial policy; (2) India since 1763; (3) Australia; (4) Canada; (5) South Africa; (6) problems of imperial organization; (7) Russian expansion in Siberia and Central Asia; (8) the opening of China to Western influence; (9) the awakening of Japan; (10) Europe in the Far East; (11) the Boxer Rebellion; (12) Russo-Japanese war; (13) Chinese Republic; (14) the new French Colonial Empire; (15) Italy and Germany as colonizing powers; (16) the passing of the

Mohammedan powers—Turkey, Egypt, Persia, Morocco; (17) connection of these movements with European rivalries; (18) expansion as a factor in leading to the war. The advantage of a great deal of scattered reading makes access to a fair library desirable. Mj. DR. SCOTT.

15. Europe in the Twentieth Century: the Historical Background of the Great War (C16).—This course includes (1) a brief study of the outstanding features of the political, social, and economic organization of each of the leading countries of Europe; (2) the conflict of interests due to rival nationalistic ambitions, particularly in the Near East, Central and Southeastern Europe, and Alsace-Lorraine; rivalry for trade and the exploitation of natural resources, especially in Morocco and Asia Minor; (3) the armed peace resulting from all these factors, the origin of the Triple Alliance, and the development of the Triple Entente; (4) the crises since 1904 in the Near East and Africa; (5) the immediate occasion of the war and the responsibility for precipitating it; (6) the widening of the area of conflict, the definition of the issue of autocracy against democracy; (7) the war and neutral rights, with special reference to the United States; (8) some necessary conditions of a permanent peace. Mj. DR. SCOTT.

16. History of England to the Accession of the Tudors.—Early Britain, its Romanization, the settlements of the invading German tribes, the struggle for supremacy, the union of England under Wessex, the Norman Conquest, the struggle of the people for constitutional rights, civil and foreign wars, and the beginning of the Renaissance in England will be studied. Mj. DR. FOX.

17. England from Henry VII to Edward VII (1485-1910).—While a general view of political policy, foreign and domestic, is the chief aim of the course, special attention is given to such important topics as the growth of Parliament, of democracy and imperialism, and considerable stress is laid on religious, economic, and social movements. Mj. DR. FOX.

NOTE.—The following courses presuppose course 4 (A and B) and afford opportunity to study American history more exhaustively. The student is advised to take the courses in sequence. In this way he will greatly economize the expenditure for books, since successive courses require the same textbooks to a large extent. Graduate credit may be obtained in courses 18 and 19 by properly prepared students who have access to sources and original documents and who do additional advanced work under the direction of the instructor. In such cases the tuition fee for each Minor will be \$16.00 instead of \$8.00.

18. Colonial Period (1607-1783) (E4).—

A. Colonization and Colonial Institutions (1607-1763).—This course deals briefly with the period of discovery but more in detail with the origin and development of political, social, and economic institutions. The chief events of colonial history are considered with especial reference to the relations between the English colonies and the mother-country and the economic and political causes leading up to the Revolution. The course concludes with a survey of the struggle for the control of North America by the French and English and the peace of 1763. M.

B. The American Revolution (1763-1783).—The following topics show, substantially, the content of the course: the territorial, political, and economic condition of the English colonies in 1763; the new policy of the English government; the development of colonial opposition; the constitutional and philosophical arguments on both sides; the beginning of hostilities; the Declaration of Independence; the progress of the war; Congress as a governing body; the Loyalists; French and Spanish intervention; Washington's triumph; the preliminaries and terms of peace of 1783. M.

ASSOCIATE PROFESSOR JERNEGAN.

19. The Formation and Growth of the Nation (1783-1829) (E5).—

A. Confederation and the Constitution (1783-1789).—The following topics are treated: the results of the Revolutionary War; the government under the Articles of Confederation; the organization of the western territory; interstate controversies; problems of diplomacy and foreign trade; violations of the treaty

of peace; paper money; the Shays Rebellion; the Constitutional Convention; analysis of the Constitution; the process of ratification. M.

B. *Foreign Politics and National Expansion (1789-1829)*.—Beginning with the organization of the national government, the course deals with the policy of the Federalist party in foreign and domestic politics and the rise of the Democratic opposition. The broad and strict constructions of the Constitution are carefully studied. Further topics are the fall of the Federalists; Jefferson's policy; annexation of Louisiana; experiments in neutrality; and the causes, progress, and results of the War of 1812. The course concludes with a survey of the political and economic reorganization after the war, including western expansion, the Missouri Compromise, the Monroe Doctrine, and the triumph of the Jacksonian democracy. M.

ASSOCIATE PROFESSOR JERNEGAN.

20. Sectional Conflict and National Development (1829-1914) (E6).—

A. *Democracy, Expansion, and Conflict (1829-1865)*.—The course is intended for maturer students who wish to learn "why things happened as they did as well as how they happened." Thus attention is given to the causes of the democratic revolution under Jackson and the growth of political machinery and the "spoils system" by which party government was made effective; the economic and political growth of the lower South, the development of the industrial North, and their rivalry for the political alliance of the growing West. The fundamental cause of sectionalism is found in economic divergence; its growth is traced in the sectional treatment of practically all national questions before 1860—the tariff and nullification, banks, the subtreasury system, land policy, internal improvements, the admission of new states, and territorial expansion. Careful study is made of slavery as a system and its economic, social, and political effects; abolition and anti-slavery; aggressive expansion under southern leadership; the vain efforts of the South to extend its system to new territory and its consequent loss of political power; the sectionalization of the older political parties after 1850; the rise of the new Republican party and its triumph in 1860; secession and the triumph of nationalism. The great statesmen and other leaders of the period receive due attention. Other topics are the growth of industry, agriculture, and commerce under the spur of mechanical invention and improved transportation; urban development; social changes; immigration; religious and cultural history. M.

B. *National Consolidation and Expansion (1865-1914)*.—The course treats of the problems of reconstruction, the blundering policy pursued by Congress, and the recovery of the South; the conflict between Congress and the executive, legislative scandals and executive demoralization, and political, constitutional, and economic readjustments made necessary by the war; the rapid growth of the North, the settlement of the West under the influence of transcontinental railways and liberal land laws, and the economic rise of the New South. The cardinal facts of the period are found to be the economic development of a free, united people under a policy of *laissez faire*, the rise of enormous corporations and trusts in industry and transportation and their efforts to control government in the interests of "big business," the effects of such material changes upon the structure of society, and the efforts of popular government to control this portentous economic development by law. In this light tariff reform, coinage of silver, currency and banking, conservation, railway-rate regulation, government supervision of corporations, the labor movement, and labor and socialistic legislation are studied. On the political side third-party movements, civil-service and ballot reform, the extension of federal powers and activities, and the development of such democratic weapons as direct primaries, direct election of senators, direct legislation, and the recall are considered. Attention is given to commercial expansion, "imperialism," foreign relations and the emergence of the United States as a world-power, Latin American relations, and the Panama Canal. The first two years of the Wilson administration are included in the study. M.

DR. FOX.

21. The United States and the Great War (E69).¹—The historical background—political, economic, military, and social; general and particular causes for entrance, especially neutral rights and international law; the new adjustments and agencies developed as a result of war; the larger questions and problems involved—national and international; war legislation and the effects; the preparations for, and progress of, the war; peace programs and ideals; present tendencies affecting the new era in the United States. Mj. ASSOCIATE PROFESSOR JERNEGAN.

22. Economic History of the United States.—A general survey of the subject aiming to acquaint the student with the economic problems and forces as they developed and shaped the course of American history—a phase frequently neglected, but of fundamental importance for a proper understanding of the history of the American people. Among the main topics treated are (1) colonial agriculture, industry, and commerce; (2) economic aspects of the Revolution; (3) the opening up and settlement of the West; (4) the public lands; (5) internal improvements; (6) railways and waterways; (7) slavery; (8) immigration; (9) the merchant marine; (10) foreign commerce; (11) the development of agriculture; (12) the rise of manufactures; (13) the growth of trusts and trade unions. Prerequisite: course 1 in Political Economy and 4 (A and B) in History, or their equivalent. Mj. Dr. Fox.

For other courses for teachers of History see p. 66.

History of India.—(Cf. description under Comparative Philology 4).

THE HISTORY OF ART

1. Introduction to the History of Painting (20).—The object of this course is twofold: to increase understanding and enjoyment of paintings as works of art and to furnish an outline of the development of painting as a foundation for more detailed study. The course includes (1) an exposition of general principles of aesthetic excellence in pictorial art and analysis of selected paintings of various periods and schools in accordance with these principles; (2) a survey of the evolution of art forms in European painting to the present time. Attention will be concentrated upon representative masterpieces, the history of intervening periods being traced briefly. The analyses are planned to stimulate the student's response to the aesthetic content of paintings so that in the historical work he will not overlook this element. Instruction is based upon reproductions of paintings, with readings and supplementary material furnished in the lesson sheets. Prerequisite: a year of college work or the equivalent. Mj. Miss DRISCOLL.

2. Flemish Painting (46).—A course on the development of Flemish painting from the mediaeval miniaturists to Rubens and Van Dyck. The method will be analytical as well as historical. Instruction is based on reproductions of paintings with supplementary readings. Prerequisite: a year of college work or the equivalent. Mj. Miss DRISCOLL.

3. Dutch Painting (47).—Emphasis will be laid on the work of the masters of the seventeenth century and the special forms of portrait, genre, and landscape painting as developed by the Dutch in that period. Instruction is based on reproductions of paintings with supplementary readings. Courses 2 and 3 are planned to give a comprehensive outline of the painting of the Netherlands. The course on Flemish painting, while not prerequisite, will add materially to the student's understanding of the special achievements of Dutch painting and its relation to the Flemish school. Prerequisite: a year of college work or the equivalent. Mj. Miss DRISCOLL.

NOTE.—Related courses are offered in Philosophy, History, Aesthetic and Industrial Education, and Drawing.

¹ Registrations will be accepted after January 1, 1919.

SOCIOLOGY AND ANTHROPOLOGY

COLLEGE

1. Introduction to Sociology.—A study of the phenomena of social life; the basis of society in nature; the social person; social institutions, and social psychology, order, and progress. The course is designed to give an introduction to theoretical and practical sociology and to systematize the reading, observation, and thinking of advanced students. Mj. ASSISTANT PROFESSOR MACLEAN.

2. Introduction to the Study of Society (1).—This course is designed to afford a synthetic view of social phenomena, and to furnish the student with a scientific method for the study and correct understanding of ordinary human association. Considerable attention will be paid to local studies as a means of amplifying the text. The aim is to have the course serve as an introduction to the special social sciences. Mj. ASSISTANT PROFESSOR MACLEAN.

3. Elements of Industrial History.—The aim of this course is to acquaint the student with the salient facts of American industrial history and to furnish a foundation for those who wish to do further work in economics or sociology. Selected industries will be studied in detail and their evolution discussed. A course for practical people as well as for students. Mj. ASSISTANT PROFESSOR MACLEAN.

4. Social Debtor Classes.—A course for practical social workers and supporters of social amelioration. The particular work in which the student is interested is taken as a starting-point and an attempt is made to discuss various forms of preventive and constructive social work from the standpoint of the relief visitor, city missionary, alienist, contributor, or lay student, as the case may be. Texts are chosen with a view to the reader's special needs, and illustrations are taken from his own state or community. The chief aim of the course is to give occasion for the reader to analyze, classify, and describe his own environment and his own experience and observation. Prerequisite: course 1 or its equivalent. Mj. ASSISTANT PROFESSOR MACLEAN.

5. Social Groups.—An advanced course in social psychology for students who desire to investigate special problems. Applications of psychology to social organization; problems raised by the Great War. Prerequisite: "Social Psychology" or an equivalent course. Mj. ASSISTANT PROFESSOR TALBERT.

6. Modern Immigration.—This course includes a study of the forces at work in movements of population from the old world to the new; history and statistical studies of immigration into the United States; nationalities involved; their distribution and industrial adjustment; problems presented; social efforts looking toward better assimilation; the status of the immigrant. A course for students, social workers, and all who are interested in this important social problem. Mj. ASSISTANT PROFESSOR MACLEAN.

7. Rural Life.—The aim of this course is to study rural social life in America, with its problem of isolation, and organized efforts for improvement. The course is designed to meet the needs of Young Men's and Young Women's Christian Association secretaries, country ministers, teachers, social workers, and others who are dealing with the problems of rural communities. The country will be studied in its physical, economic, and psychological aspects with a view to a thorough understanding of rural life, a discovery of needs and existing efforts to meet these, and suggestions for further improvement. Mj. ASSISTANT PROFESSOR MACLEAN.

8. Problems of Industry.—A course designed for the discussion of some of the vital questions in American industrial life, including (1) the labor of women and children; (2) methods of settling disputes; (3) insurance against accident; (4) the improvement of physical conditions in factories; (5) efforts to render workers more efficient. The work will be conducted by means of textbooks, reports, and special studies. Prerequisite: course 1 or its equivalent. Mj. ASSISTANT PROFESSOR MACLEAN.

9. The Playground Movement (63).—A course primarily for playground supervisors and recreation and community-center directors, but useful also to social workers, educators, ministers, Y.M.C.A. leaders, and others who desire to know about the scope and the objectives of the current play and recreation movement. The course includes consideration of the following: (1) sources and evolution of play in the race—its age periods, sex differences, social, national, and racial traits, its rhythmic and seasonal characteristics, transmission of its traditions; (2) the occasion for public provision for play; (3) the program, agencies, equipment, and organization of public play and recreation; (4) history, statistics, legislation, propaganda of the current play and recreation movement, and the use of play in institutions of various types. Instruction is based upon problems for the solution of which the essential material is furnished, but collateral reading is indicated and required. Desirable prerequisites are two or more years of college or equivalent training, including introductory courses in psychology, education, and sociology. Mj. MR. RAINWATER.

10. The Direction of Playground Activities (64).—Designed for the training of playground and recreation directors in the theory and method of conducting and correlating the practical play and recreational activities of all ages of people. In the first part of the course the physical, social, civic, aesthetic, industrial, and nature interests will be studied in their application to sex, age, time, place, and end or aim. Here are taken up marching, calisthenics, gymnastics, dancing, plays and games, athletics, badge tests, leagues and tournaments, exhibitions and field days, excursions, hikes and camps, stories, dramatics, festivals, pageants, music, modeling, wood craft, toy-making, paper folding and cutting, raffia and reed craft, hammock-making, nature-study and gardening, the organization of clubs, the conduct of social and game rooms, the organization of community councils and centers and civic classes, public meetings and forums. In the second part programs for the day, the week, and the year, on both indoor and outdoor children's playgrounds, men's and women's gymnasiums and fieldhouses, and school social centers are formulated. The method of instruction is similar to that in the preceding course. Prerequisite: course 9. Mj. MR. RAINWATER.

11. General Anthropology (80).—An introductory course treating of the origin, antiquity, distribution, and early occupations of man and of the sources of language, religion, the arts, and social relations. The student must consult the instructor before registering. Mj. ASSOCIATE PROFESSOR STARR.

12. Japan (101).—A general view of Japan, past and present, is sought. Especial attention is given to industrial art and religion. The student must consult the instructor before registering. Mj. ASSOCIATE PROFESSOR STARR.

GRADUATE

13. Principles of Collective Behavior.—An introduction to the study of society and social problems. This course is designed to make the student familiar with the concepts which investigators of social life in various fields have found useful in analyzing and describing the fundamental processes of community life. The point of view represented by the course is that human nature as distinguished from original nature is the product of human association. The general concepts discussed are (1) isolation and social contact; (2) imitation and suggestion; (3) communication and interaction; (4) social forces; (5) competition; (6) conflict; (7) accommodation; (8) assimilation; (9) collective or corporate action; (10) social control; and (11) social progress. Mj. ASSISTANT PROFESSOR BURGESS.

14. The Family (5).—The purpose of the course is to investigate the problems of the modern family from the standpoint of the personal development of its members and of the "mores" of the community. The following topics will be considered: (1) the natural family; (2) the institutional family; (3) the

home; (4) disorganization and disintegration; (5) the future of the family. As far as practicable the instruction will be based upon case-studies made by the individual student and upon an analysis of current ideals of family life as reflected in modern literature. Prerequisite: course 13. Mj. ASSISTANT PROFESSOR BURGESS.

15. The Negro in America (43).—The course is intended as an introduction to methods of investigation in the field of racial psychology. It will seek to define the problems and outline a method and a point of view for investigating them. Attention will be directed especially to effects, in slavery and in freedom, of (1) the contacts of the white and the black races; (2) the ensuing processes of amalgamation, assimilation, and racial competition; (3) the rôle of the mulatto; (4) the social and political effects of isolation and prejudice; (5) the growth of race consciousness in the Negro; and (6) the evolution of a bi-racial system of social control. The books required for reference in this course can be borrowed by students to whom they are not otherwise accessible upon the payment of the cost of transportation. Prerequisite: course 13. Mj. PROFESSOR PARK.

16. The Social Survey (36).—An application of current methods of social investigation to local community problems. The student is expected (1) to make an inventory of the outstanding problems of his local community, i.e., neighborhood, town, or rural community; (2) to investigate the interrelations of the problems noted; (3) to assess the relative actuality of each problem or group of problems, i.e., estimate the urgency as well as the feasibility of an investigation of each case; (4) to prepare a plan of the community, (a) outlining the economic organization, (b) locating social institutions and the natural groups, i.e., the racial, occupational, recreational, religious, and residential groups. Prerequisite: course 13. Mj. PROFESSOR PARK.

17. Field Studies (43b).—This course is designed to provide direction and suggestion either (1) for special research or (2) for a community survey. Credit for the course depends upon the submission and acceptance of a satisfactory report upon an investigation made under the direction of the instructor. The approval of the instructor of the plan of the community survey is contingent upon the success of the student in organizing a local group to participate in the study of community problems. Arrangements may be made for expert assistance in the investigation of special problems if required. Prerequisite: course 16. Mj. PROFESSOR PARK AND ASSISTANT PROFESSOR BURGESS.

HOUSEHOLD ADMINISTRATION

1. House Sanitation (42).—This course offers a comprehensive and practical study, based on scientific principles, of the sanitary aspects of the home. Recent changes in sanitary theory and practice are especially emphasized. Among the topics treated are the choice of building site, construction and care of cellar, drainage, plumbing, heating, lighting, ventilation, furnishing, and cleaning. Mj. PROFESSOR TALBOT.

2. Foods and Dietaries (43).—A course in practical dietetics covering the study of the composition of foods, methods of conservation, scientific principles of preparation, and their combination in dietaries from an economic and physiological standpoint. Prerequisite: high-school chemistry and physics. Mj. PROFESSOR TALBOT.

3. The Modern Household (40).—This course will consider the order and administration of the house with a view to the proper appointment of the income and the maintenance of suitable standards. Changes in household activities and organization as affected by modern economic and social conditions will be studied. Mj. PROFESSOR TALBOT.

ORIENTAL LANGUAGES AND LITERATURES

(For courses see pp. 74 ff.)

NEW TESTAMENT AND EARLY CHRISTIAN LITERATURE

(For courses see pp. 76 f.)

COMPARATIVE PHILOLOGY, GENERAL LINGUISTICS, AND INDO-IRANIAN PHILOLOGY

1. **Elementary Sanskrit** (10).—The aim of the course is to give the student a thorough grounding in the essentials of Sanskrit grammar, the principles of which are illustrated by constant translation from Sanskrit into English and from English into Sanskrit. It is designed as an introduction to the selections from classical Sanskrit in Lanman's *Reader*, which the student should then be prepared to read rapidly by himself. No attempt is made to teach comparative philology in this course. Mj. ASSISTANT PROFESSOR CLARK.

2. **The Bhagavad Gītā**.—The Sanskrit text of this most famous of all Hindu religious books will be read and some attention will be paid to the content and the development of the doctrines contained in it. Mj. ASSISTANT PROFESSOR CLARK.

3. **History of Sanskrit Literature** (13).—The aim of this course is to give a brief survey of the literature of India—a literature of no small intrinsic value and one which offers much that is of interest to the occidental student. An effort will be made to gain some intelligent appreciation of the social and intellectual conditions under which this literature was produced and to form some conception of its place in the literature and thought of the world. No knowledge of Sanskrit or Pali is necessary, but a large amount of reading in translations will be required. Mj. ASSISTANT PROFESSOR CLARK.

4. **History of India** (16).—This course will trace the political history of India and the parallel social development from the time of the Rig-Veda to the Battle of Plassey in 1757. The formation of the Mongol Empire in Central Asia will be traced in order to give a background for the treatment of the Mogul period in India. Mj. ASSISTANT PROFESSOR CLARK.

5. **The Religions of India** (14).—The aim of this course is to give a brief outline of the mythology and religion of the Vedas and an account of the three great Hindu religions—Brahmanism, Buddhism, and Hinduism. A knowledge of these is absolutely essential to the student of comparative religion. Mj. ASSISTANT PROFESSOR CLARK.

6. **Hindu Philosophy** (15).—The course will trace the growth of philosophic thought in India from the Rig-Veda through the Upanishads to the six great philosophical systems. Especial attention will be paid to the Vedānta, the Sāṃkhya, and the Yoga systems. Mj. ASSISTANT PROFESSOR CLARK.

THE GREEK LANGUAGE AND LITERATURE

ACADEMY

1. **Elementary Greek**.—In two Majors is offered the equivalent of the first year of high-school work in Greek. The writing of Greek is required from the beginning.

A. White's *First Greek Book*, Lessons 1-60. These lessons include the commonest noun and adjective declensions, the Omega system of conjugation, some fundamentals of syntax, connected reading lessons epitomizing the story of the *Anabasis*, and a vocabulary of 600 common Greek words. Mj.

B. (1) White's *First Greek Book*, Lessons 61-80, including a study of the Mi system of conjugation, reading lessons, continuing the *Anabasis* story, and an additional vocabulary of 250 words; (2) the *Anabasis* of Xenophon, Book i, chaps. 1-3. These lessons call for constant review of the material studied in the *First Greek Book*. Mj.

ASSISTANT PROFESSOR BRONSON.

2. Xenophon: *Anabasis*.—

A. From Book i, chap. 4, through Book ii, chap. 4, about fifty pages. Exercises in writing Greek based upon the text. Mj.

B. From Book ii, chap. 5, through Book iv, about ninety pages. Greek composition, including a topical treatment of syntax. Occasional tests in translation at sight. Mj.

ASSISTANT PROFESSOR BRONSON.

3. Homer: *Iliad*.—

A. Books i-iii.—An introductory study of the *Iliad* in which the literary and linguistic aspects of the poem and the Greek life of the Homeric period are considered. Particular attention is paid to prosody and the peculiarities of epic dialect and syntax. Mj.

B. Books vi-xxii (*passim*).—The selections read in this course are chosen with a view to giving the student an idea of the plot of the *Iliad* as a whole. They include parts of Books vi, ix, xv, xvi, xix, and xxii. The grammar, dialect, and prosody are reviewed, and the text is made the basis of a general literary and elementary critical study of the *Iliad*. Mj.

MR. NELSON.

COLLEGE

Courses 4, 5, 6, and 7 are designed for students who begin Greek *after entering college*. They are coextensive with the corresponding residence courses, are conducted in the same manner, and are intended to prepare the student for the advanced required work. The first three Majors are equivalent to the first year's work in college.

4. Elementary Greek (1).—The purpose of this course is to give a mature person or one who has had four years of good high-school training sufficient drill in the most common forms and principles of syntax of the Greek language. After a very few lessons the *Anabasis* is begun, and throughout the entire course attention is paid to the writing of simple sentences in Greek. Mj. MR. NELSON.

5. Xenophon: *Anabasis* (2).—The *Anabasis* is continued from the point reached at the end of course 1, and six more chapters from Book i, with selections from Books ii and iii, are read. A systematic study of syntax is begun, with frequent exercises in prose composition. Mj. MR. NELSON.

6. Xenophon: *Anabasis* (continued) (3).—Books iv, v, vi, and selections from vii are read in this course, and the systematic study of syntax begun in course 2 is completed. The literary style of Xenophon and the historical content of the *Anabasis* are also subjects of study. Mj. MR. NELSON.

7. Homer: *Iliad* (4).—This is an introductory course to the study of Homer. The forms and syntax of the epic dialect are contrasted with those of the Attic dialect, and the essentials of prosody are presented. Selections from the *Iliad*, amounting to about 2,000 lines, are read. The course includes a literary study of this epic, with its pictures of life in the Homeric period. Mj. MR. NELSON.

8. Plato: *Apology* and *Crito* (5).—In connection with these writings short selections from Plato's *Symposium* and *Phaedo* and from Xenophon's *Memorabilia* will be read to furnish a basis for the study of the life and philosophy of Socrates as interpreted by Plato and Xenophon. The course includes a brief outline of Plato's life and works and a discussion of the syntax and idioms of Plato. Mj. MR. NELSON.

9. Homer: *Odyssey* (Books i, v-xii, and selections from Books ii and iv) (6).—This course aims chiefly at enabling the student to translate Homer fluently and with appreciation. It also includes a review of epic dialect and syntax and a study of Homeric life and antiquities. Mj. MR. NELSON.

10. Introduction to Greek Tragedy (7).—Sophocles' *Antigone* and Euripides' *Medea* are read. Attention is given to the various problems connected with these plays, to the character delineation, and the method of presentation. Colateral reading is assigned on the history of Greek tragedy and theater. Mj. MR. NELSON.

11. Prose Composition (16).—The course offers to teachers and others an opportunity to perfect themselves in Greek syntax, sentence structure, and the use of particles. The exercises are graded from simple narrative passages in the style of Xenophon to more difficult selections in the style of Plato and Demosthenes. Mj. PROFESSOR BONNER.

12. Lysias: *Selected Orations* and Demosthenes: *Philippics* (17).—A general introduction to Attic oratory. The literary characteristics of the authors studied and the public life and the history of their times are considered. Students should consult the instructor before registering. (Informal.) Mj. MR. NELSON.

13. Demosthenes: *De Corona* (23).—This oration, admitted to be the greatest one of ancient times, will be studied chiefly from the literary point of view. Students should consult the instructor before registering. (Informal.) Mj. MR. NELSON.

14. Herodotus: *Historiae* (Books vii–viii) (39).—The reading covers the invasion of Xerxes, including the battle of Salamis. The history of this period and the language and style of the author are studied. Mj. MR. NELSON.

15. Aristophanes (26).—An introduction to the study of Greek comedy; intensive study of two plays, probably the *Clouds* and *Birds*; the language and technique of Aristophanes; the external environment and inner spirit of Athenian comedy. Students should consult the instructor before registering. (Informal.) Mj. MR. NELSON.

Members of the Greek Department will endeavor to arrange informal courses for students who are prepared to do work of an advanced nature whenever practicable. Professor Shorey will occasionally guide by correspondence the work of advanced students who propose to attend the University.

NOTE.—Related courses are offered in Philosophy and General Literature.

THE LATIN LANGUAGE AND LITERATURE

ACADEMY

1. Elementary Latin.—In two Majors is offered the equivalent of the first year of high-school work in Latin. Starting with the rudiments, the aim is to acquaint the student with all the regular forms and common constructions found in Caesar's *De Bello Gallico* and to give him a large vocabulary.

A. Includes all the declensions of nouns and adjectives, all the conjugations of regular verbs, and the simplest rules of syntax. Mj.

B. Provides: (1) a review of verb forms, the conjugation of the irregular verbs, and the more difficult constructions in syntax, and (2) the study of Caesar: *De Bello Gallico*, Book i, chaps. 1–30, covering the Helvetian War. Mj.

MISS PELLETT.

2. Caesar: *De Bello Gallico*.—

A. Book ii.—This course is intended for students who have completed course 1, but who have had no other practice in translation. Special attention is given to a review of forms and syntax. Exercises in prose composition based upon the text form a part of each lesson. Mj.

B. Books iii–iv.—Continues the above. The more difficult Caesarian constructions are carefully studied, and further practice is given in prose composition. Mj.

C. Book i.—The latter part of Book i, the war with Ariovistus, is read. While forms, syntax, and prose composition continue to be studied, indirect discourse receives special attention. M.

MISS PELLETT.

3. Cicero: *Orationes*.—

A. *In Catilinam*, i–iv (1A).—This course includes translation, a review of forms and of more difficult constructions, exercises in Latin composition based upon the portion of text assigned in each lesson, and the history of the period. Mj.

B. *Pro Lege Manilia* and *Pro Archia* (1B).—Continues A and includes a careful study of the literary style of Cicero, of all historical references, and exercises in prose composition based upon the portion of text assigned in each lesson. Especial attention is given to translating into good English. Mj.

MISS PELLETT.

4. **Vergil: *Aeneid*.—**

A. Books i–ii (2A).—The work includes a study of prosody, word derivation, constructions peculiar to the poets, and the more common rhetorical figures. Mj.

B. Books iii–vi (2B).—Continues A and lays emphasis upon elegance of translation, the mythology, and the literary style of Vergil. Mj.

MISS PELLETT.

5. **Prose Composition Based on Caesar.**¹—This course affords (1) practice in writing Latin in connected passages based on Caesar's *De Bello Gallico*; (2) a thorough review of grammatical forms and constructions found in the *De Bello Gallico*; (3) a careful study of synonyms. As the course is informal, special attention can be given to any subject in which the student is deficient. M. MISS PELLETT.

6. **Prose Composition Based on Cicero.**¹—Like course 5, using the orations as a basis. M. MISS PELLETT.

NOTE.—The courses 1–6 are intended for three classes of students: (1) those who are preparing to enter college; (2) those who wish to study Latin for their own benefit; (3) teachers of Latin who from the topics and questions in each lesson can receive suggestions for their own work, e.g., the points to be emphasized at different stages in Caesar, Cicero, and Vergil.

COLLEGE

7. **Cicero: *De Senectute*** (4, first half).—The entire essay is read with studies in syntax and exercises in prose composition based upon the text of each lesson. M. MISS PELLETT.

8. **Terence: *Phormio*** (4, second half).—This play, as a specimen of the highest development of Roman Comedy, is carefully studied with regard to composition, presentation, etc. Attention is also given to vocabulary, metrical treatment, and ante-classical forms and constructions. M. ASSISTANT PROFESSOR BEESON.

9. **Livy** (5).—The twenty-first book and a large part of the twenty-second, describing Hannibal's expedition against Rome up to Cannae, are read, with accompanying studies in literary style and syntax and exercises in prose composition, based in each case upon the portion of text assigned in each lesson. Mj. ASSISTANT PROFESSOR BEESON.

10. **Horace: *Odes***, Books i–iii (6).—This course includes commentary upon the details of each ode, syntactical, historical, illustrative, etc.; translations, analysis of thought, and general interpretation, and a study of the metrical form. A list of general topics, material for the study of which is to be found in the odes, is presented at the outset, and the student is expected to select one of these for his especial study. Mj. PROFESSOR MILLER.

11. **The Latin Subjunctive.**—The course presents a systematic treatment of the subjunctive according to the latest scientific theories. All the forms found in preparatory Caesar or Cicero are classified. The student may choose to classify the forms either in Caesar or in Cicero, or in such a combination of the two as shall be equivalent in amount to either. The course is intended primarily for teachers. Mj. MISS PELLETT.

12. **Advanced Prose Composition** (44).—The course offers to teachers and others an opportunity to perfect themselves in Latin syntax and in sentence and paragraph structure. The exercises are graded from simple passages in the style of Caesar to more difficult extracts in the style of Cicero. Prerequisite: three Majors of college Latin. Mj. ASSISTANT PROFESSOR BEESON.

¹ This course commands no credit.

13. Cicero: *De Amicitia*.—Primarily a translation course, with questions based on subjects suggested by the text. The lessons will afford drill in syntax and some practice in the writing of Latin. M. ASSISTANT PROFESSOR BEESON.

14. Plautus (20).—

A. *Captivi*.—This course will deal especially with the linguistic side of Plautus. The vocabulary and scansion will be studied and ante-classical forms and constructions noted. Good idiomatic translation will be required. M.

B. *Trinummus*.—Here the literary side will be emphasized. The course will deal especially with Plautus' style, plot, and delineation of character. As in the first minor, much attention will be paid to translation. M.

ASSISTANT PROFESSOR BEESON.

15. Tacitus: *Agricola* and *Germania* (11).—In the reading of these works both their historical importance and their literary merits are brought out. The course is an introduction to the language and style of Tacitus. Mj. PROFESSOR BEESON.

16. Cicero: *Epistulae* (24).—A study of the character and career of Cicero from the evidence afforded by the material contained in one hundred selected letters and from supplementary historical and biographical sources. The course also deals with the peculiarities of epistolary Latin and with the general subject of letter-writing in ancient Rome. Mj. ASSISTANT PROFESSOR BEESON.

17. Ovid (10).—Selections from *Epistulae*, *Amores*, *Fasti*, *Metamorphoses*, and *Tristia*. The object of the course is to make a general study of the life and works of Ovid and of his place in Roman literature. (Informal.) Mj. PROFESSOR MILLER.

18. Seneca: *Tragedies* (33).—The tragedies of Seneca will be studied for their style, as characteristic of the period, and their content; they will be compared with the corresponding Greek dramas, and their influence upon English drama will be touched upon. Three plays will be read from the Latin text and the remainder from an English translation. (Informal.) Mj. PROFESSOR MILLER.

19. Horace: *Satires and Epistles*.—Selected satires and epistles are carefully read and analyzed, with particular regard to argument, character portrayal, style, and their place in literature. (Informal.) Mj. PROFESSOR MILLER.

20. Horace and Persius: *Satires* (30).—A brief review of the predecessors of Horace in the field of satire, a reading of selected satires of Horace and Persius, with a study of the characteristic features of each. (Informal.) Mj. PROFESSOR MILLER.

21. Juvenal (38).—The object will be to present, through the study of selected satires, a picture of life and manners at Rome under the Early Empire. (Informal.) Mj. PROFESSOR BEESON.

22. Topical Studies in the Works of Vergil.—This course presupposes a considerable familiarity with Vergil on the part of the student. It is not a reading course, but the *Eclogues*, *Georgics*, and particularly the *Aeneid*, will be the field of investigation under various topics relating to different objects of study in the works of this author. A list of topics will be presented to the student, of which the following are typical: "Vergil's Verse and Its Metrical Peculiarities"; "Poetic Constructions in Vergil"; "Vergil as a Poet of Nature"; "The Aeneid as a National Epic"; "Vergil's Use of Metaphor and Simile." The student will be expected to select a certain number of these topics and, with them in mind, to go through the works of Vergil under direction of the instructor, collect all material bearing upon them, and present his results in finished form. The instructor will at all times furnish such aid as may be necessary and will criticize the results. (Informal.) Mj. PROFESSOR MILLER.

23. Roman Conception of the Immortality of the Soul (25).—This course is the study of a topic and is based for material upon a variety of authors: Cicero's *Tusculan Disputations* i, *De Senectute*, *De Amicitia*, *Epistulae*; Vergil's *Aeneid*, Book vi; Horace's selected odes; Ovid, Seneca, Persius, etc. (Informal.) Mj. PROFESSOR MILLER.

24. Training Course for Teachers of Latin (46).—The object of the course is to give the teacher working alone and often at a distance from authorities, an opportunity to appeal for assistance and advice along any lines connected with his teaching of Latin. Naturally there are some subjects which nearly all teachers find it profitable to take up in a somewhat formal way, e.g., pronunciation, translation, metrical reading, composition, etc. In addition to these, each teacher will have his own problems to discuss. The course is designed to meet these general and individual needs. (Informal.) Mj. PROFESSOR MILLER.

Members of the Latin Department will endeavor to arrange informal courses for students who are able to do work of an advanced nature, whenever practicable.

ROMANCE LANGUAGES AND LITERATURES

1. Elementary French.—In two Majors is offered the equivalent of the first year of high-school work in French. The writing of French is required from the beginning.

A(1). The aim is to acquaint the student with the essentials of French grammar, to enable him to turn short English sentences into idiomatic French, and vice versa, and to acquire some ability in translation. Mj.

B(2). This course (1) reviews and extends considerably the knowledge of grammatical principles and the irregular verbs acquired in the preceding Major; (2) fixes it by means of exercises in composition; and (3) through drill in translation develops in the student ability to read easy French at sight. Mj.

ASSISTANT PROFESSOR NEFF.

2. Intermediate French (3).—The work of this course follows immediately upon that of "Elementary French—B." The books read deal with life in France and inform the student regarding the national traits and conditions. The exercises in composition take the form sometimes of a résumé of the text read, sometimes of reproduction in French of exercises based on the text. The grammar is studied inductively. Mj. ASSISTANT PROFESSOR NEFF.

3. Advanced French (4).—Idioms, synonyms, diction; (a) systematic review of elementary French grammar; (b) syntax; (c) reading: Merimee, *La Chronique de Charles IX*; (d) composition based on the reading. Prerequisite: course 2. Mj. ASSOCIATE PROFESSOR DAVID.

4. French Reading.—(A. *Modern Novels*, or B. *Modern Dramas*.)

A. *Modern Novels* (5).—Anatole France, *Le Crime de Sylvestre Bonnard*; Honoré de Balzac, *Eugénie Grandet*; George Sand, *La Mare au Diable*. Criticism of the novel. Prerequisite: course 3. Mj.

B. *Modern Dramas* (5).—V. Hugo, *Hernani*; E. Augier, *Le Gendre de M. Poirier*; A. Dumas, fils, *La Question d'Argent*; E. Rostand, *Cyrano de Bergerac*. Criticism of the drama. Prerequisite: course 3. Mj.

ASSOCIATE PROFESSOR DAVID.

5. Advanced French Reading.—(A. *Modern Dramas and Lyrics*, or B. *Modern Novels and Lyrics*.)

A. *Modern Dramas and Lyrics* (6).—The work will be based on the dramas of 4B and selections from the lyric poets, especially Chénier, Lamartine, Musset, Victor Hugo; versification; criticism of lyric poetry. Prerequisite: course 4A. Mj.

B. *Modern Novels and Lyrics* (6).—This work will be based on the novels of 4A and selections from the lyric poets, especially Chénier, Lamartine, Musset, Victor Hugo; versification; criticism of lyric poetry. Prerequisite: course 4B. Mj.

ASSOCIATE PROFESSOR DAVID.

NOTE.—If A has been chosen in course 4, A of course 5 must be chosen; if B of course 4, B of course 5 must be chosen.

6. Cours de Style (12).—Principes généraux, exercices pratiques de composition française. Prerequisite: 6 Majors of French or the equivalent. Mj. ASSOCIATE PROFESSOR DAVID.

7. Introduction to the Study of French Literature (19, 20).—A general survey of French literary activity from 1600 to 1850. Prerequisite: 6 Majors of French or the equivalent. Mj. ASSOCIATE PROFESSOR DAVID.

8. Molière and the French Comedy in the Seventeenth and Eighteenth Centuries.—

A. *Molière and His Contemporaries* (14).—(Seventeenth century.) Mj.

B. *Molière's Successors* (14A).—(Eighteenth century.) Mj.

These two majors include a study of the lives of the principal authors, their influence on the theater, with intensive study of the following plays: (a) Corneille, *Le Menteur*; Molière, *Les Précieuses Ridicules*, *Tartuffe*, *Le Misanthrope*, *L'Avare*, *La Critique de l'École des Femmes*, *Le Bourgeois Gentilhomme*, *Les Fourberies de Scapin*, *Don Juan*, *Les Femmes Savantes*, *Le Malade Imaginaire*; (b) Regnard, *Le Légataire Universel*, *Le Joueur*, *Les Folies Amoureuses*; Lesage, *Turcaret*; Marivaux, *Le Jeu de l'Amour et du Hasard*, *Le Legs*, *L'Épreuve*, *Les Fausses Confidences*; Destouches, *Le Philosophe Marié*; Gresset, *Le Méchant*; Beaumarchais, *Le Barbier de Séville*, *Le Mariage de Figaro*. This is intended to familiarize the student with the masterpieces of classical comedy. Constant comparison will be made between the language of these writers and that of today, and the most unusual constructions will receive consideration. The work is conducted wholly in French. Prerequisite: course 7 or its equivalent.

ASSOCIATE PROFESSOR DAVID.

9. Molière.—A critical study of all the plays of the great writer. All the reports must be written in French. This secures to the student a thorough course in advanced French composition as well as a comprehensive knowledge of Molière's work. Prerequisite: 9 Majors of French. Mj. ASSOCIATE PROFESSOR DAVID.

10. Old French (elementary course) (76).—The importance of some historical knowledge of French as a part of the teacher's equipment is generally recognized. Old French is also an indispensable language for research in the modern literatures. This course may be taken to advantage by students looking forward to resident graduate work. A reading knowledge of modern French is necessary, and some knowledge of German and Latin is desirable. Texts: *La Chanson de Roland*; *Aucassin et Nicolette*; *Erec et Enide*; *La Représentation d'Adam*. For reference: Nyrop, *Grammaire historique de la langue française*, Vols. I-IV. The student should consult instructor before registering. Mj. PROFESSOR JENKINS.

11. Elementary Italian (B1).—This course is devoted chiefly to the study of Italian grammar. It includes practice in composition and in translation. The lessons are based on Grandgent's *Italian Grammar* (new edition, with Wilkins' *Lessons and Exercises*), Wilkins' *Notes on Italian Grammar*, and Wilkins' and Altrocchi's *Italian Short Stories*. Mj. MISS SCHOBINGER.

12. Intermediate Italian (B2).¹—The main object of this course is to enable the student to understand written Italian thoroughly and readily. The work is chiefly in translation. Goldoni's *La locandiera* and part of Manzoni's *I promessi sposi* are read as carefully as possible, and one or two other books are assigned for more rapid reading. The course includes also some practice in composition. Prerequisite: course 11 or its equivalent. Mj. PROFESSOR WILKINS.

13. Elementary Spanish (C11).—This course is designed to enable the student to attain a clear conception of the fundamental principles of Spanish grammar and syntax. All the lessons furnish practice in turning Spanish into English and English into Spanish. Mj. ASSISTANT PROFESSOR CALDERWOOD.

14. Intermediate Spanish (C12).—This course consists of: (1) a more detailed study of the principles of Spanish grammar, as presented in Ramsay's *Textbook of Modern Spanish*; (2) the writing of sentences illustrating these principles; (3) the careful reading of about 350 pages of simple Spanish prose, including Padre Isla's version of *Gil Blas*, Hill's *Spanish Tales for Beginners*, and *Zaragüeta* by Carrión-Aza, special attention being directed to points of syntax,

¹ Registrations will be accepted after October 1, 1918.

idiomatic expressions, and synonyms; and (4) exercises in prose composition based on the reading assignments. Prerequisite: course 13 or its equivalent. Mj. ASSISTANT PROFESSOR CALDERWOOD.

15. Spanish Prose Composition (C3).—This course is designed to give the student a practical command of Spanish as a medium of expression. It may be varied to accommodate the needs of the student, now tending more to commercial forms of composition, now to those forms used in literature or by the traveler. Prerequisite: course 14 or its equivalent. Mj. ASSISTANT PROFESSOR CALDERWOOD.

16. Modern Spanish Novels and Dramas (C15).—This course is intended to fit students for the appreciative reading of the best modern Spanish Literature. It includes the careful reading of about 450 pages of fairly difficult modern Spanish prose and verse, including *La Familia de Alvareda* by Fernán Caballero, *José* by Palacio Valdés, and *Guzmán el Bueno* by Gil y Zárate, special attention being directed to (1) the more difficult points of syntax; (2) translation into Spanish of selections based on the reading; and (3) abstracts of the reading assignments to be written in Spanish. Prerequisite: course 14 or its equivalent. Mj. ASSISTANT PROFESSOR CALDERWOOD.

17. Don Quixote (C16).—This is mainly an interpretative and critical reading course, embracing the first fourteen chapters of the first part and the first ten chapters of the second part of *Don Quixote*. The life of Cervantes and the literary movement of his time will be noticed. In the reading the peculiarities of syntax, style, and diction, as compared with later Spanish, will be studied. A bibliography of the more important works will be given, enabling the student who may wish to make a more extensive study of the author to do so. Prerequisite: course 16 or its equivalent. Mj. ASSISTANT PROFESSOR CALDERWOOD.

GERMANIC LANGUAGES AND LITERATURES

1. Elementary German.—In two Majors is offered the equivalent of the first year of high-school work in German. The writing of German is required from the beginning.

A (1).—This course aims to ground the student in the essentials of German grammar through the reading of easy idiomatic German and exercises in which special attention is given to the construction of the verb, noun, and adjective. Mj.

B (2).—Continues and extends A to include the passive voice and the subjunctive, and calls for extensive reading of easy prose. Mj.

ASSISTANT PROFESSOR VON NOÉ.

2. Review of First-Year German.—The course provides a thorough review of as much of the elementary grammar and syntax of the language as is usually presented in the first year of standard high-school work. It will appeal especially to students who desire to renew their acquaintance with the fundamentals preparatory to further study of German and to those who have acquired their knowledge of the tongue by some natural method. [This course is interpolated in the regular sequence and does not command credit; the charge for it is \$16.00 regardless of combination.] ASSISTANT PROFESSOR GRONOW.

3. Intermediate German (3).—Devoted primarily to the reading of easy modern prose and incidentally to a rapid review of elementary German grammar. The text read will always serve as the drill-ground for grammar work. Attention will be directed constantly to German idiom, and from time to time the student will be required to reproduce in German what he has read. In the composition work emphasis will be laid upon word-order and sentence-structure, the knowledge of which is essential to the proper appreciation of the language. Mj. ASSISTANT PROFESSOR GRONOW.

4. German for Medical Students (4Z).—The aim of this course is the acquisition of a vocabulary which will enable the student to read German medical books intelligently. Prerequisite: 3 Majors of German. Mj. ASSISTANT PROFESSOR GRONOW.

5. Elementary Prose Composition (4).—Through the reproduction of ordinary narrative English into German and by means of original composition the student is led to appreciate the difference between English and German idiom. The course also provides a comprehensive review of the grammar and syntax of the language. Mj. ASSISTANT PROFESSOR GRONOW.

6. German Idioms and Synonyms (5).—The course comprises the study of (1) the method of word-formation; (2) grammatical idioms; (3) synonyms, together with a thorough review of syntax. Attention is given to German-English cognates. Composition based upon selected modern German prose affords the basis of instruction. The course will be helpful to those who teach the language in secondary schools. Mj. ASSISTANT PROFESSOR GRONOW.

7. Modern German Plays (6).—This is primarily a reading course. It aims at the acquisition of the foundations of idiomatic German on the basis of the language of the dramas read. Mj. DR. PHILLIPSON.

8. Scientific German.—The aim of the course is to enable the student to read German scientific prose. It has the same prerequisites as the preceding course and is co-ordinate with it. Short exercises in German composition connected with the text are required. Mj. ASSISTANT PROFESSOR VON NOÉ.

9. Deutsche Aufsätze (11).—An advanced course in composition including a study of German synonyms, the more difficult principles of syntax, and the elements of style. Mj. ASSISTANT PROFESSOR VON NOÉ.

10. Introduction to the Study of German Literature (40A, B, and C).—The first required course in German literature. Through a critical study of representative masterpieces and supplementary readings the student is introduced to the whole range of the literature and furnished some knowledge of the notable movements in it. The course is divided into two parts, either of which may be taken without the other. Prerequisite for either Major: course 9 or its equivalent.

A. This covers the field of German literature from the earliest times through Lessing. The selections from Old High German and Middle High German literature will be read in modern German translations. Mj.

B. This is a continuation of A and follows the same general plan. The works to be studied are chosen from Goethe, Schiller, Kleist, Heine, Eichendorff, Grillparzer, Hauptmann, and Sudermann. Mj.

DR. PHILLIPSON.

11. Aufsätze und Stilübungen (61).—A sequent to "Deutsche Aufsätze." It includes a study of masterpieces of the best German stylists and the criticism of graded themes. The theme subjects deal with German life, history, and literature. The aim of the course is to develop the student's ability in essay-writing. Prerequisite: course 9 or its equivalent. Mj. ASSISTANT PROFESSOR VON NOÉ.

12. Heine's Prose and Poetry (42).—The reading of the larger part of the lyrics, the dramas, and the *Reisebilder* will be accompanied by a study of the author's life and the general tendencies of the Romantic movement, and by investigations into the poet's sources and literary technique. Prerequisite: course 10B or its equivalent. Mj. DR. PHILLIPSON.

13. Deutscher Satzbau und Stil (101).—The course aims to develop an instinct for idiom and an active sense of the niceties of style by discussing, varying, and independently reproducing passages from great stylists of the nineteenth century. Prerequisite: course 11 or its equivalent. Mj. ASSISTANT PROFESSOR VON NOÉ.

14. Gothic (103).—A consideration of Gothic phonology, morphology, and syntax in connection with the reading of selections from the Bible translation of Wulfila. Intended as a review course or for those who have had philological training. Mj. PROFESSOR WOOD.

15. Old High German (104).—The reading of selections from Braune's *Althochdeutsches Lesebuch* with reference to the same author's *Abriss der althochdeutschen Grammatik*. This course is a natural sequent of course 14. Prerequisite: course 14 or its equivalent. Mj. PROFESSOR WOOD.

16. Old Saxon (109).—The work will be based on Holthausen's *Altsächssiches Elementarbuch*. Open to those who have had courses 14 and 15 or their equivalents. Mj. PROFESSOR WOOD.

17. Old Norse-Icelandic Prose (147A).—The purpose of the course is to offer students who have had a beginning course in Icelandic an opportunity to learn to read Icelandic prose readily. An annotated saga text providing about 300 pages of reading matter is selected, and the student is asked to read, in addition, on the antiquarian and literary problems involved. During 1918-19 the *Egils saga Skallagrimssonar* will be read. Zoëga's *Old Icelandic Dictionary* is recommended. Prerequisite: residence course 112 or its equivalent, a beginner's course involving a historical study of the sounds and inflections of the language and the reading of about 40 pages of Old Icelandic prose. This prerequisite course must itself be preceded by "Gothic." Mj. ASSISTANT PROFESSOR GOULD.

18. The Teaching of German in Secondary Schools (97X).—The method of teaching German in high schools and academies has undergone radical changes within the last few years. The object of this course is (1) to make the teacher acquainted with the new methods and their application to the teaching of pronunciation, grammar, composition, reading, and translation; (2) to furnish him an opportunity to discuss his particular problems. Mj. ASSISTANT PROFESSOR GRONOW.

German Literature in English.—(Cf. description under General Literature 7.) Mj. DR. PHILLIPSON.

THE ENGLISH LANGUAGE AND LITERATURE

ELEMENTARY

1. English Grammar.—An elementary course in practical English grammar, assuming no technical knowledge of the subject, and intended for students who need instruction or review in the fundamental principles of the language, especially with relation to the correct combination of words in sentences. In some cases this course will be desirable as preparation for the following composition courses. [This course commands no credit; the charge for it is \$16.00 regardless of combination. For "English Grammar for Teachers" see course 39, below.] ASSOCIATE PROFESSOR MARSH.

2. Vocational English.—A course designed to teach what is most important for a clerk, a stenographer, or a worker in any occupation requiring correct speech and simple writing to know about practical English. Study of spelling, capitalization, punctuation, and the grammar of the sentence is applied in letter-writing and other simple composition. [This course commands no credit; the charge for it is \$16.00 regardless of combination.] ASSOCIATE PROFESSOR MARSH.

ACADEMY

3. Preparatory English Composition.¹—In a series of three Majors the equivalent of the ordinary high-school work in English composition is offered. These three Majors in composition, together with the three in literature numbered 4, below, provide for the three units in English required for entrance to college: the A's for the first unit, the B's for the second unit, the C's for the third unit.

A. A very simple introduction to English composition, with review of those portions of grammar necessary as a basis for correct sentence structure and correct formation of words. The student will write simple themes and letters, based largely on his own experience and observation, and will prepare drill exercises of the sort assigned in the first year or so of a good high-school course. Mj.

B. Somewhat more advanced work in composition with attention to the main principles of rhetoric. Sound paragraphing is considerably emphasized. Mj.

C. Still more advanced work in composition very definitely preparatory for college English. Mj.

ASSOCIATE PROFESSOR MARSH.

¹ Registrations will be accepted after October 1, 1918.

4. Preparatory English Literature.¹—In a series of three Majors the equivalent of the ordinary high-school study of English masterpieces is offered. The work is designed for students who wish credit for entrance to college, but teachers of English in high schools may gain from it valuable hints for their own teaching of the masterpieces. These Majors are also suited to persons who wish to take up, either for the first time or by way of review, the more simple and concrete phases of the study of literature. Students seeking entrance credits will be somewhat limited in their choice of books for study; those who take the work for help in their teaching may range freely in the lists for college entrance. (For credit see the explanation under course 3, above.)

A. The simplest masterpieces in both prose and poetry, among those listed "for reading" in the college entrance requirements, are studied. Mj.

B. A somewhat more difficult group of masterpieces chosen from the list "for reading" are studied. Mj.

C. The attention is concentrated on the masterpieces listed "for study," with additional choice of a few among the most difficult of those listed "for reading." Mj.

ASSOCIATE PROFESSOR MARSH.

NOTE.—Until this threefold arrangement of "Preparatory English Composition" and "Preparatory English Literature" goes into effect (October 1, 1918), the old two-fold arrangement will be available as follows:

Preparatory English Composition.—

A. A simple introduction to English composition. The work is roughly equivalent to the composition requirements of the first two years of a good high school, consisting in the writing of simple themes based mainly on the student's own experience and observation and the preparation of exercises illustrating the simpler rhetorical principles. For credit see statement in this type below. Mj.

B. More advanced than the foregoing; substantially equivalent to the composition work of the last two years in a good high school, and definitely intended to prepare for college composition. The work consists of exercises illustrating all the main principles of rhetoric and themes of a somewhat more difficult type than those asked for in course A. For credit see statement below. Mj.

ASSOCIATE PROFESSOR MARSH.

Preparatory English Literature.—

A. A simple introduction to English Literature covering approximately the work in literature of the first two years of the high school, with study of the simpler masterpieces among those listed "for reading" in the list of college-entrance requirements. For credit see statement in this type below. Mj.

B. The masterpieces listed "for study" will be emphasized, with attention also to some of the more difficult books among those listed "for reading." The work is approximately that of the last two years of high school and directly preparatory for college. For credit see statement below. Mj.

ASSOCIATE PROFESSOR MARSH.

Students who satisfactorily complete and pass the A's of both "Preparatory English Composition" and "Preparatory English Literature" will receive credit for the second of the three units in English required for entrance to college; those who satisfactorily complete and pass the two B's will receive credit for the third of the three units.

COLLEGE

5. English I (1).—This is designed to be a full equivalent of the first course in English composition and rhetoric required of all students in residence, and commands corresponding credit. It presupposes the ordinary training in English received in a good high school and represented in a general way by the preceding courses. More detailed study of the principles of rhetoric, as presented in a more advanced textbook, is made, and a higher standard of theme work on a variety of topics, usually chosen (subject to certain limitations) by the student himself, is expected. The emphasis throughout is placed upon writing of the most practical sort. A volume of prose selections is also used. Mj. ASSOCIATE PROFESSOR MARSH.

6. English III (3).—This course is designed to be a full equivalent of the second course in English rhetoric and composition required of all students in residence and commands corresponding credit. The course aims (1) to give training in structure, and (2) to give instruction and practice in the four forms of composition—exposition, argumentation, description, and narration. To these

¹ Registrations will be accepted after October 1, 1918.

ends a textbook is required, lesson papers must be submitted, and a final examination taken. The written work will consist of six long themes, each from 1,500 to 3,000 words in length, and twelve short themes of from 100 to 200 words each, in addition to exercises based on the textbook. Students may gain admittance to the course by passing creditably course 5 or by submitting to the instructor an original exposition or argument showing ability. Mj. ASSISTANT PROFESSOR HULBERT.

7. English IV.—

A. *Exposition—Argument*.¹—A course designed to teach the principles of expository and argumentative writing: English composition as training in logical, constructive thinking.

1 (4B).—The work consists of an analysis of models of exposition; inductive study of definition, analysis, explanation, familiar essays, criticism, reproduction, and the like; and of extensive practice in writing the various forms. Students will be permitted to write in the lines of their individual interests. Mj.

2 (4C).—Work correlative with English IVA-1; consists of a similar approach to the problems of argumentation. The course is designed on the basis of practical logic, involving critical study of logical processes of thinking, handling of evidence, detection of fallacies, and the like. Writing in the fields of the student's interests. Mj. ASSOCIATE PROFESSOR LYMAN.

B. *Story-Writing*.¹—A course of two Majors replacing the single Major entitled "Narrative and Descriptive Writing" as formerly given. It is designed to teach the principles of story-writing with particular reference to the short story. The textbook has been prepared by Mr. Grabo to meet the particular needs of correspondence-study students.

1 (4A).—Includes an autobiography; exercises to bring out the essentials of narrative; exercises in the point of view; exercises in the study of the unities of action, time, and place; exercises and studies in exposition and preparation; a study of short-story introductions; study of and exercises in character drawing; descriptions of persons and places; a study of the writing of dialogue. Original character sketches, descriptions, themes in dialogue, and several short stories will be demanded in this half of the course. It aims to bring out the fundamentals of story structure and is designed for those who desire to write either short stories or novels. Considerable reading in specified standard novels and short stories is demanded. Mj.

2. Continues 1 and takes up a study of story ideas; construction of plots to illustrate various types of stories; a consideration of titles and the names of characters; a study of suggestion and restraint; a study of unity of tone; a study of the psychology of story-writing. In this Major more attention is paid to the development of plot, and more original work in the short story is expected. Reading of short stories and novels is recommended—a bibliography of these is furnished with the lessons. Prerequisite: English IVB-1; but those who have received credit for "Narrative and Descriptive Writing," the English IVB of preceding years, will be permitted to register for this Major. Mj. MR. GRABO.

C. *Journalistic Writing*.¹—Study is made of the News Story, the Book Review, the Editorial, and the Feature Story. The forty lessons constituting the course include (1) critical exercises, and (2) original work upon topics assigned by the instructor or approved by him from lists submitted by the student. A text is used as a basis for a part of the work. The student is expected to study the form of news stories and editorials in at least one good newspaper, to follow current topics in several of the best magazines, and to gather some of the material for his papers (notably the feature stories) from first-hand observation. Mj. MR. GRABO.

8. English V.—*Magazine Writing*.¹—A course of forty lessons embracing the study and the writing of the Special Article, Literary Criticism, and the

¹ This course is open to others than graduates of "English III" who can present evidence, in the form of a statement of previous work and original productions, that they are prepared for it.

Personal Essay. The student will be required to read examples of these forms and to submit analyses of them. A volume of selected essays will serve as a text for the latter part of the course. Mj. MR. GRABO.

9. English VI (5, 6).—Advanced Composition.—For students who have credit for a Major of "English IV" or for "English V" and who are desirous of receiving criticism upon essays, stories, or articles. There are no lessons or exercises, the sole requirement being that the student submit 30,000 words of original matter. The initiative lies solely with the student; the instructor confines himself to criticism and advice. It is essential that any student entering this course have definite work in mind. Others than graduates of "English IV" or "English V" will be admitted only upon the submission of MS displaying a technique adequate to the course. Mj. MR. GRABO.

Business Correspondence.—(Cf. description under Political Economy 6, p. 17.)

10. Proofreading.—The course aims to equip the student with a knowledge of the practical details of typography, such as size of type, the methods employed by printers in composition, the niceties of spacing, and the work actually done by the printer in correcting proofs; to train the eye, the mind, and the memory in the application of consistent standards and the enforcement of rules of "style." With this groundwork the student is taught that proofreading is not merely a correction of misspelled words, but a profession calling for the use of a wide range of faculties, of individuality, and of independent judgment. The instruction includes actual reading of proof and a practical application of theoretical details. Before the course is completed the student will have been drilled in the fundamental essentials of English. Prerequisite: "English I" or an equivalent course. M. MRS. BRIDGENS.

11. Copy-Editing.—A practical course designed especially for those desiring to equip themselves for secretarial duties, or for filling the position of "copy-editor," and for writers and others whose work brings them in contact with printing and publishing houses. The student is trained to decide how his own manuscript, or the work of others passing through his hands, should be treated and arranged for the printer, and is taught how to prescribe the appropriate typographical treatment for any class of "copy." Drill in all the practical details as well as the intellectual features of writing, by means of actual practice with all sorts of "copy," is a feature of the course. Prerequisite: course 10. M. MRS. BRIDGENS.

12. The Forms of Public Address (10).—This course is intended for students of public speaking. It gives training in the essential principles of constructive thinking, writing, and speaking, and includes gathering of information, organizing it for a definite purpose, and presenting it to meet varying conditions. In these ways the problem of organizing one's thought for public presentation, either in speech or in writing, is approached inductively through the careful analysis of certain masterpieces of public address. Among the forms studied are the following: the argument, the eulogy, the editorial, the commemorative address, the dedication, the toast, the after-dinner speech. Each student will be allowed reasonable leeway in selecting the particular form or forms of address he wishes to study intensively. Prerequisite: "English I" and "English III" or their equivalents. Mj. ASSOCIATE PROFESSOR LYMAN.

13. Versification.—

A. This course is offered for students interested in the technique of English verse. It cannot be expected that such a course will develop finished poets. But it is offered for the purpose (1) of training students in verse-writing, and (2) of giving them an understanding of the technique of verse, and hence increasing their appreciation of English poetry. The prime requisite in the student is that he have an interest in the subject, not that he have any special ability to write verse. To accomplish the purposes of the course, the student will study a textbook, make certain analyses of pieces of English verse, and write original verse of different types. Prerequisite: "English I" or its equivalent. M.

B. For those who having completed course A desire to continue the writing of verse begun in that course and to receive criticism on their productions. There are no specific assignments; the student is expected to choose his own subjects and forms; he may write a few long pieces of narrative or descriptive verse or many short lyrics. The instructor makes such criticism and gives such counsel as seem to him helpful to the student. Open only to students who have completed course A with a high grade. M.

ASSISTANT PROFESSOR HULBERT.

14. The Development of English Literature (40).—This course is designed to be the full equivalent of the first required college course in English literature. It introduces the student to the whole range of English literature by requiring the reading of selected masterpieces from *Beowulf* to the present time. Selections from English authors, of both prose and poetry, and a short history of English literature are used as the basis of study. The aim is (1) to give the student first-hand acquaintance with typical parts of the work of the leading English writers, (2) to study the place of the master pieces in the development of English literature in their relation not only to one another but also to historic events and conditions, (3) to give the student the foundation for an appreciation of literature. The course as a whole affords a broad introduction to the more detailed and critical study undertaken in the group of courses under 17, "English Literature by Periods." Mj. ASSOCIATE PROFESSOR MARSH.

NOTE.—For admission to any one of the following courses, course 14 or its equivalent is prerequisite.

15. An Introduction to American Literature (160B).—A series of studies of American life in American literature. The first few lessons are given over to pre-Revolutionary literature for the purpose of observing the earliest departures from English models and traditions. Chief emphasis is, however, thrown on the poets, essayists, and novelists of the nineteenth century. While the aim of the course is to put the student in the way of obtaining a preliminary acquaintance with the subject as a whole, assigned readings are restricted to selected works of twelve or fifteen representative men of letters, from Irving and Cooper to Lanier and Whitman. Mj. ASSISTANT PROFESSOR DAVENPORT.

16. An Introduction to the Study of Shakspeare (41).—This course is planned to give the student a knowledge of Shakspeare's life and work, a familiarity with typical plays of the various periods in his dramatic career, some acquaintance with his relation to his age and its literature, and an introduction to the field of Shakspearean criticism and scholarship. The following plays will be studied: *A Midsummer-Night's Dream*, *Romeo and Juliet*, *I Henry IV*, *Much Ado about Nothing*, *Twelfth Night*, *Hamlet*, *King Lear*, and *The Tempest*. Mj. ASSOCIATE PROFESSOR BASKERVILL AND MRS. BASKERVILL.

17. English Literature by Periods (42-48).—A series of seven Majors which cover with some minuteness the history of English literature from the middle of the sixteenth century down to 1892. In each Major the work consists mainly in the reading of a large number of representative masterpieces of the period and the preparation of answers to questions based upon this reading. Textbook work in a literary history of each period is assigned and the lesson sheets furnish much supplementary material, such as bibliographies of the selected authors, suggestions for study of their principal works, etc. It is not necessary that the series be taken in chronological order, as each course is complete in itself; but those intending to take the whole series are advised to follow the chronological order. The series as a whole is designed to give first-hand knowledge of the chief masterpieces of modern English literature. Persons who have had course 14 or its equivalent, and who desire to do systematic reading of English literature without regard to college credit, may also arrange for any of these courses.

A. English Literature from 1557 to 1599 (42).—Reading from Spencer (at least one book of the *Faerie Queene* and various shorter poems), Wyatt, Surrey, Sackville, Sidney, Marlowe, and the other principal Elizabethan poets; Ascham's *Schoolmaster*, Sidney's *Defence of Poesie*, Lyly's *Euphues*, Lodge's *Rosalynde*,

and other prose works of the period. The works of Shakspeare and of other dramatists are omitted because covered in other courses. The required reading in this course is planned on the basis of a set of books that can be borrowed from the University Library for a small fee. Mj.

B. *English Literature from 1599 to 1660* (43).—Reading of poems by Milton (his early work), Herrick, and all the prominent Jacobean and Caroline poets; plays by Jonson, Beaumont and Fletcher, and the other principal playwrights up to the closing of the theaters; prose by Bacon, Browne, Milton, Taylor, Walton, and others. The works of Shakspeare are omitted because covered in other courses. Mj.

C. *English Literature from 1660 to 1744* (44).—Reading of representative prose by Bunyan, Dryden, Pepys, Addison, Steele, Swift, Defoe; Milton's late poems (several books of *Paradise Lost*, *Samson Agonistes*, etc.), and the chief poems of Dryden, Pope, Thomson, and various minor poets; plays by Dryden, Otway, Wycherley, Congreve, and other Restoration dramatists. Mj.

D. *English Literature from 1744 to 1798* (46).—Reading of novels by Richardson, Fielding, Smollett, Sterne, Johnson, Goldsmith, the so-called "Gothic" romancers, and Fanny Burney; miscellaneous prose by Johnson, Goldsmith, Boswell, Gibbon, and Burke; poems by Gray, Collins, Goldsmith, Chatterton, Blake, Cowper, Crabbe, Burns, and others; plays by Goldsmith and Sheridan. Mj.

E. *English Literature from 1798 to 1832* (47).—Poems by Wordsworth, Coleridge, Southey, Scott, Campbell, Moore, Byron, Shelley, Keats, Hunt, Hood, Landor; novels by Scott and Jane Austen; miscellaneous prose by Coleridge, Lamb, Hazlitt, De Quincey, the reviewers, etc. Mj.

F. *English Literature from 1832 to 1892*.—

1. Poetry (48A): The student studies the principal poems of Tennyson, the Brownings, Matthew Arnold, Clough, the Rossettis, George Meredith, William Morris, Swinburne, and others. Mj.

2. Prose (48B): This deals with Carlyle, Macaulay, Newman, Arnold, Pater, Ruskin, Stevenson; and also includes novels by Dickens, Thackeray, George Eliot, the Brontës, Meredith, Hardy, and others. Mj.

ASSOCIATE PROFESSOR MARSH.

Courses A-F (or their equivalents) are required of all candidates for the Doctor's degree in English, and at least four of them (or equivalents) for the Master's degree. Hence, though a year of resident study is required for the Master's degree, students may take these required courses by correspondence and later do more highly specialized work in residence. Graduate credit will be given to properly prepared students who do creditable work in their recitation papers and pass the final examination given on each course. Students not entitled to graduate credit, moreover, may register for any of the courses, the only prerequisite being course 14 or its equivalent.

18. *The History of the English Language* (34A).—This course is offered in the belief that an understanding of what language is and of what the history of the mother-tongue has been is as important as a study of some part of its literature and indispensable to the latter study. It attempts to give a general survey of the development of the English language; its relation to other languages; the chief periods; the development of forms, sound and meanings, and foreign influences. Prerequisite: "English III" or two years of college work. Mj. ASSISTANT PROFESSOR HULBERT.

19. *The Growth of the English Novel*.—The historical development of narrative prose fiction in English is traced in outline from the later mediaeval prose romancers and story-tellers to the beginning of the twentieth century. A brief preliminary review of the field of fiction is attempted in the initial lessons—the qualities shared by novelist and poet, the material common to both, the similarities in general construction of the novel and drama, and throughout the continental influences are noted, sources inquired into, and the modifications in structure and content of the novel in succeeding periods are indicated. Illustrations of the various aspects and principles of the art of fiction are drawn from the representative works selected.

A. *From Sir Thomas Malory to Oliver Goldsmith* (87A).—In this course one work of each of the following authors is read: Malory, Lyly, Sidney, Lodge, Greene, Nashe, Bunyan, Defoe, Swift, Richardson, Fielding, Smollett, Sterne, and Goldsmith. The character sketch of the seventeenth century and its extension, by Steele and Addison in *The Spectator*, are briefly dealt with, as are other literary forms which contributed to, or tended to shape, the modern novel. Mj.

B. *From Mrs. Radcliffe and Godwin to Stevenson and Kipling* (87B).—Beginning with the reappearance in England of romantic prose fiction—the “School of Terror,” or the “Gothic” romance and the “School of Theory,” doctrinaire or revolutionary—one work of each of the following authors is read: Walpole, Mrs. Radcliffe, Godwin, Fanny Burney, Maria Edgeworth, Jane Austen, Scott, Cooper, Hawthorne, Lytton, Dickens, Thackeray, Kingsley, Trollope, Reade, Charlotte Brontë, George Eliot, Meredith, Hardy, Stevenson, and Kipling. The course concludes with a brief consideration of fiction as affected by the scientific movement of the nineteenth century, particularly by physiology and psychology. Mj.

MRS. GRAHAM.

20. *The Drama in England from 1500 to 1600* (84).—This course includes a brief introductory survey of the mediaeval drama, a more detailed consideration of Renaissance drama, with the development of new types and new theatrical conditions, and finally a study of the development of a native romantic drama as revealed in the work of Lyly, Peele, Kyd, Greene, and Marlowe. Mj. ASSOCIATE PROFESSOR BASKERVILL AND MRS. BASKERVILL.

21. *The Drama in England from 1600 to 1642* (85).—This course deals with the rise of the comedy of humors and of manners, with the perfection and decadence of tragedy, and with the later phases of romantic comedy. Masterpieces of Jonson, Dekker, Heywood, Beaumont and Fletcher, Middleton, Webster, Massinger, Ford, and Shirley are studied, with attention not only to the characteristics of these writers but to their interrelations, their influence on the course of the drama, and their reflection of social conditions. Mj. ASSOCIATE PROFESSOR BASKERVILL AND MRS. BASKERVILL.

22. *The Plays of Shakspeare*.—In two Majors is offered a rapid but fairly full survey of the plays of Shakspeare in chronological sequence. Attention will be directed to Shakspeare's handling of character and plot, to the development of his taste and technique, to the influence exerted upon his work by the literary and social trends of the time, and to evidence for dates, editions, sources, etc., for the individual plays.

A. *The Plays of Shakspeare from 1591 to 1599* (70A).—This course, covering the plays through *Much Ado about Nothing*, includes the early tragedies and comedies, the chronicle plays, and the first masterpieces in comedy. The structure of comedy, the characteristics of witty comedy, Shakspeare's early style, and the reflection of social conditions in his comedies of this period are stressed. Mj.

B. *The Plays of Shakspeare from 1599 to 1611* (70B).—This course, beginning with *Julius Caesar* and *As You Like It*, includes the chief tragedies, the Roman plays, and the comedies of the middle and later periods. Especial emphasis is laid on the structure and art of tragedy, on the satiric element in the earlier plays of this period, and on the dramatic seriousness of Shakspeare's work. Mj.

ASSOCIATE PROFESSOR BASKERVILL AND MRS. BASKERVILL.

NOTE.—Course 16 or its equivalent is a prerequisite for courses 20, 21, and 22. Students who wish to get a connected view of Renaissance drama are advised to take, in sequence, courses 20, 21, and 22.

23. *The Life and Works of Spenser* (69).—The course is for advanced, though not necessarily graduate, students. The *Faerie Queene* and the minor poems; allegory; the poet's versification; his position and significance with respect to mediaevalism, the Renaissance, and especially Elizabethan poetry are considered. Mj. ASSISTANT PROFESSOR KNOTT.

24. *The Life and Works of Wordsworth*.—A more detailed examination of the poet's most significant work, especially the *Prelude* and the lyrical ballads, and their significance with relation to the Romantic Movement. Prerequisite: “English Literature by Periods—E.” M. MRS. GRAHAM.

25. The Works of Robert Browning.—The work of this "incorrigible optimist" offers unusual problems in subject-matter and in form. The peculiarities of his style and the varied forms in which he wrote present abundant material for the study of technique and of general principles of literary art.

A. *Studies in the Early Poems.*—This course gives detailed consideration to the poems published before 1868, thus including much of Browning's most characteristic and suggestive work. M.

B. "*The Ring and the Book*" and *Dramas*. M.

ASSISTANT PROFESSOR DAVENPORT.

26. Studies in the Poetry of Tennyson.—The course deals with the most significant works of this representative nineteenth-century poet. Especial attention is given to his place in the development of English poetry, to the characteristic qualities of his verse, and to his close relation to the general currents of thought in his time. M. ASSISTANT PROFESSOR DAVENPORT.

27. Representative English Essayists of the Nineteenth Century.—An advanced undergraduate study of six essayists, including a brief preliminary discussion of the appearance in England of the essay and its development as a literary form. The work is based upon typical essays of Lamb, De Quincey, Macaulay, Carlyle, Ruskin, and Arnold. The method of study is the biographical and historical, and, to a limited extent, the philosophical. Emphasis is laid upon the intimate relation of literature to the forces of social life. Mj. MRS. GRAHAM.

28. The Makers of American Literature.—This course embraces a study of Emerson, Whittier, Longfellow, Lowell, Holmes, and Hawthorne—the representative writers of that period of intellectual activity in New England which roughly corresponds with the first half of the Victorian era. The various ways in which this activity expressed itself—in oratory, scholarship, Unitarianism, transcendentalism, and reform—are incidentally examined in so far as they affected or were affected by these writers. Sufficient attention is given to the general history of American literature to make this period intelligible to the student. Mj. MRS. GRAHAM.

29. The Short Story in English and American Literature.—In connection with a brief résumé of the history of the short story in England and America students will read, critically, a number of representative stories by Irving, Hawthorne, Poe, Dickens, Bret Harte, Henry James, Page, Cable, Stockton, Davis, "O. Henry," Mary E. Wilkins, Hardy, Doyle, Stevenson, Conrad, Kipling, and others. The critical study will be devoted principally to investigation of the methods by which effectiveness is secured. Mj. ASSOCIATE PROFESSOR MARSH.

30. Modern Realistic Fiction.—This course is designed to present the content and method of a typical group of realistic novels. The following works, or their equivalents, will be read: George Eliot's *Silas Marner*, Hardy's *Tess of the D'Urbervilles*, Howells' *A Modern Instance*, Meredith's *The Egoist*, Tolstoi's *Anna Karenina*, Zola's *L'Assommoir*, Frenssen's *Jörn Uhl*, Barrie's *Tommy and Grizel*, Fogazzaro's *The Patriot*, Galsworthy's *Fraternity*. Mj. ASSISTANT PROFESSOR DAVENPORT.

31. Types of Mediaeval Literature: A Literary and Sociological Study.—This course is not a survey of the historical development of mediaeval literature, but a study of characteristic examples of the literature of feudalism in relation to the social and economic background. It attacks the problem of how the literature of the Middle Ages—a period of status based on land—differs from that of recent times—a period of individualism, competition, money economy, and machine industry. Some attention will also be given to the characteristic literary forms. Prerequisite: E and F2 of "English Literature by Periods." Mj. ASSISTANT PROFESSOR DAVENPORT.

32. Contemporary Literature and Current Problems (142B).—This course is designed as an untechnical survey of contemporary novels, plays, and essays that reflect the changing social, political, and ethical conventions of the day. Effort will be made to trace them, as far as possible, to such nineteenth-century influences as Nietzsche, Ibsen, Maeterlinck, Shaw, and the socialist, anarchist, and

decadent movements. Particular attention will be paid to the conflict of ideas popularly embraced under the head of "feminism"; to the present resurgence of individualism; to the aesthetic problems of present-day realism. The course will be based upon typical works by such novelists as Bennett, Wells, Galsworthy, Cannan, Beresford in England, and Herrick, Edwards, Dreiser in America; by such dramatists as Barker and Houghton; by such essayists as Walter Lippman, Mrs. Gilman, Olive Schreiner, and Ellen Key. Although outlines will be used, anyone entering this course should be capable of forming independent judgments of the works studied. Mj. MRS. GRAHAM.

33. The Irish Literary Revival.—A study in the literature of the modern Celtic revival presupposes some acquaintance with Celtic myth, legend, and romance. The course, therefore, begins with this subject, following with the living folk literature, fairy tales, folk tales and songs, and then passing to the work of the modern poets and dramatists. Yeats, Synge, Hyde, Lady Gregory, James Stephens, AE, George Moore, Lord Dunsany, and other writers will be read. M. ASSISTANT PROFESSOR DAVENPORT.

34. The Principles of Literary Criticism.—This course presents and compares some of the most influential critical tenets; examines the relations of literature to other arts and the support given to criticism by recent studies in the psychology of artistic production. Mj. ASSISTANT PROFESSOR DAVENPORT.

35. Elementary Old English (21).—This course aims (1) to train the student in the translation of simple Old English, and (2) to give him a solid basis in grammar. Incidentally it introduces the student to philological methods and to historical English grammar. Bright's *Anglo-Saxon Reader* is used. Mj. ASSISTANT PROFESSOR HULBERT.

36. Intermediate Old English (22).—In this course the drill begun in course 35 is continued, and in addition Old English meter and poetic style are studied. The poems in Bright's *Reader* and about 500 lines of *Beowulf* are read. Mj. ASSISTANT PROFESSOR HULBERT.

37. Advanced Old English (23).—The remainder of *Beowulf* is studied with reference, not only to its language, but to its stylistic and literary features. Mj. ASSISTANT PROFESSOR HULBERT.

38. Introduction to Chaucer (28).—May be taken by students who have had no training in Middle English. Along with the reading of selected poems there will be study of the main facts regarding Chaucer and his works. Mj. ASSOCIATE PROFESSOR MARSH.

39. English Grammar for Teachers (33).—A much more advanced course than the one numbered 1, page 37, presupposing a fairly good knowledge of the subject. The recommendations of the Joint Committee on Grammatical Nomenclature are embodied. Some stress will be laid on the textbooks available and on the problems with which teachers have to deal. Mj. ASSOCIATE PROFESSOR MARSH.

For other courses for teachers of English, see pp. 67 ff.

GENERAL LITERATURE

This Department offers work to two distinct classes of students: (1) those doing graduate work in comparative literature, for whom a knowledge of the original languages and some previous training in literature are indispensable; (2) those doing undergraduate work, who wish to become acquainted with foreign literatures for the purpose of general culture, and for whom a reading knowledge of the original languages, though desirable, is not necessary. The courses presuppose "English I" and "The Development of English Literature" or their equivalent.

1. World-Literature for English Readers (1).—This course surveys the literature of the world and notes its influence upon the culture of English-speaking peoples. Moulton's *World Literature* will furnish the point of view and the historic background for the course. This will be supplemented by the reading,

wholly or in part, of selected masterpieces, among which will be the five literary Bibles theoretically treated in the textbook—the Holy Bible, Classic Epic and Tragedy, Shakspeare, Dante, and Milton, and versions of the story of Faust. There will also be readings in comparative literature, studies in collateral literature, and a survey of strategic points in the development of literature as a science. It is primarily a college course, but it is also adapted to the needs of the general reader. Works not English will be read in translation. Books for the required reading may be found in any well-selected library or may be borrowed from the University by arrangement with the Director of the Libraries. Mj. PROFESSOR MOULTON AND MISS SCHRADER.

2. Ancient Epic and Tragedy for English Readers (3B).—The aim of this course is to present Greek epic and tragedy from a purely literary point of view. It will include a study of the poetic heroes of the Argonautic Expedition and of the Trojan War. The works will be read in translation and in the order of the story sequence rather than in the chronological order of their authorship. Under the myth of the first generation *The Argonauts* of Apollonius, *Medea* of Euripides, and *Jason* of William Morris (a modern reconstruction) will be read. A larger selection of works will be included under the myth of the second generation, including the *Iliad*, the *Odyssey*, and tragedies of Aeschylus, Sophocles, and Euripides that touch the story of the Trojan War. Besides noting the place these works occupy in the progressive development of a story sequence, both epics and tragedies will be studied with reference to structure and general technique. Vergil's dependence upon Homer and his influence upon mediaeval literature will also be noted. Mj. PROFESSOR MOULTON AND MISS SCHRADER.

3. The Literary Study of the (English) Bible (2).—This course is intended for those who teach or expound the Bible and for those who merely read it as a part of universal literature. The aim of the course is (1) to familiarize the student with the literary forms found in the Scriptures, under the general divisions of Lyric Poetry, History with Epic, Wisdom Literature, Prophecy, and forms of Address; (2) to show how the separate books of the Bible when read in their literary sequence draw together with a literary connection like the unity of a dramatic plot. Moulton's *The Modern Reader's Bible*—in which the books of the Bible with three of the Apocrypha are edited in modern literary form—and Moulton's *The Literary Study of the Bible* are the required texts. Mj. PROFESSOR MOULTON AND MISS SCHRADER.

4. Dante and Milton (5A).—The purpose of this course is to familiarize the student with the special significance of Dante as an interpreter of Mediaeval Catholicism and of Milton as a revealer of Renaissance Protestantism. The study will include a brief survey of the life and early work of each of the poets, but emphasis will be placed upon the *Divina Commedia* and *Paradise Lost*, as these embody the spirit of progressive civilization. Special attention will be given to the structure of the poems as related to the matter presented; to the aspects of good and evil as interpreting the philosophical thought of Mediaevalism and the Renaissance, and to the elements of creative excellency, which give to both Dante and Milton a place among the supreme poets of the world. For the study of Dante, Plumptre's metrical translation is recommended, but the prose translation of C. E. Norton may be used; for the study of Milton the Cambridge edition of *Milton's Poetical Works* will be used. The required work of the course is based upon matter contained in the texts, but bibliographies are included, and recommended readings are cited to aid the student who desires to supplement the required work with more exhaustive study. Mj. MISS SCHRADER.

5. The Modern Study of Literature.—Aims to treat the whole theory of literature. It presents the morphology, evolution, and criticism of literature and reviews its philosophic and artistic aspects. Its foundation principles are inductive observations with emphasis upon evolutionary processes; its field of view is the ideal conception of the unity of all literature. Moulton's *The Modern Study of Literature* is used as a textbook and guide. Either major may be taken by itself if desired.

A. *The Foundation Principles of the Study of Literature* (40).—The design of this course is to grasp the form and structure of literary expression and to define the field and scope of literary activity as seen in the history of world-literature. It also presents literature as a mode of philosophy and as a mode of art. The textbook will be supplemented by the reading of selected works which will illustrate and explain the various subjects treated in the course. Mj.

B. *Literary Criticism and Theory of Interpretation* (41).—This course will make clear the traditional confusion and the modern reconstruction of literary criticism. After the four leading types of criticism have been mastered, the course will fall into two parts: (1) an exposition of the criticism of interpretation; and (2) a formulation of the leading principles of speculative criticism. As in course A, the textbook will be supplemented by selections from Shakspeare and other masters of literature. Mj.

PROFESSOR MOULTON AND MISS SCHRADER.

6. *Studies in Modern Drama* (10).—In the drama produced in England and on the continent since Ibsen began to write, opportunity is offered for the study of some of the most significant and representative literature of our time. This course offers plays by Ibsen, Bjornsen, Strindberg, Sudermann, Hauptmann, D'Annunzio, Tchekhof, Phillips, Jones, Pinero, Shaw, Galsworthy, Moody, Rostand, Echegaray, Yeats, Synge, and Maeterlinck. Mj. ASSISTANT PROFESSOR DAVENPORT.

7. *German Literature in English*.—This course attempts a survey of the principal movements in German literature from its first appearance to the present day. Representative authors are studied and constant attention is given to the connection of social and intellectual life with German poetry. Mj. DR. PHILLIPSON.

Literature and History of the Arabs.—(Cf. description under Oriental Languages and Literatures 12.) Mj. ASSISTANT PROFESSOR SPRENGLING.

MATHEMATICS

ELEMENTARY

1. *Complete Arithmetic*.—This course is intended as a review of the general principles of arithmetic. While serving the student, it will be helpful to grade-teachers preparing for examination. Part I treats of general number, the four fundamental operations, factoring, fractions, and practical applications of denominate numbers. Part II drills upon the applications of percentage and actual methods of modern business. Part III considers ratio and proportion, powers and roots, mensuration, and the metric system. Numerous problems are given to illustrate all points. [This course does not command credit; the charge for it is \$16.00 regardless of combination.] ASSOCIATE PROFESSOR LAVES.

ACADEMY

2. *Elementary Algebra*.—

A. This course is designed for beginners and deals in a very simple way with the elementary principles of algebra. It will prove especially helpful to high-school students who have found the subject a difficult one, since special emphasis is laid upon type-forms and modern methods of instruction. The principal topics discussed are: the four fundamental operations of algebra, solution of linear equations and of systems of simultaneous linear equations, together with an introduction to the subject of graphs. [This course by itself carries no credit, but with "B" commands 1 unit.] M.

B. This course presupposes A and deals with factoring, fractional and literal equations, involution, evolution, theory of exponents, radicals, graphics, quadratics involving one unknown quantity and simultaneous quadratic equations. Mj.

C (00). Continues B, taking up the general properties of quadratic equations, the binomial theorem, imaginary and complex numbers, an elementary study of determinants up to the fourth order, and ends with a general theory of equations. Mj.

ASSOCIATE PROFESSOR LAVES.

3. Plane Geometry.—

A(01). Embraces a study of Books I and II. The theory is well illustrated by numerous original exercises. Mj.

B(02). Continues A and covers Books III–VI. Mj.

ASSOCIATE PROFESSOR LAVES.

Descriptive Geometry.—A series of four Majors. (Cf. description under Drawing C, p. 73.) MR. FERSON.

COLLEGE

4. **Solid Geometry** (0).—Here, as in plane geometry, the main emphasis is laid on exercises calling for original work. Mj. ASSOCIATE PROFESSOR LAVES.

5. **Plane Trigonometry** (1).—Theory and practice in the solution of triangles by natural functions and logarithms. Applications to simple problems of surveying, physics, and astronomy. Properties of the trigonometric functions treated analytically and graphically. Applications to simple harmonic and wave motion. Mj. PROFESSOR WILCZYNSKI.

Spherical Trigonometry with Applications to Astronomy and Geodesy.—(Cf. description under Astronomy 2.) Mj. ASSOCIATE PROFESSOR LAVES.

6. **College Algebra** (2).—The notion of variable and function and their geometric representation. Variation. Equations of the first degree and determinants. Quadratic equations, complex numbers, and theory of equations. Fractional and negative exponents, exponentials, and logarithms. Mathematical induction, binomial theorem, and progressions. Undetermined coefficients, permutations, combinations, and probability. Mj. PROFESSOR WILCZYNSKI.

7. **Plane Analytic Geometry** (3).—Rectangular, oblique, and polar coordinates in the plane. The relation between a curve and its equation. The algebra of a variable pair of numbers and the geometry of a moving point. Specific applications to the properties of straight lines, circles, conic sections, and certain other plane curves. Extension of the most fundamental of these notions to space. Mj. PROFESSOR WILCZYNSKI.

8. **Solid Analytic Geometry** (31).—The co-ordinate systems in space. Lines, planes, and quadric surfaces. General properties of surfaces and space curves. (Informal.) Mj. PROFESSOR WILCZYNSKI.

9. **Calculus with Applications.**—This is designed for students intending to pursue the study of pure or applied mathematics as well as for those who are actively engaged in work which presupposes a knowledge of calculus. An important feature throughout is the large number of practical applications. In dynamics, physics, mechanical and electrical engineering a working knowledge of the calculus is essential. Therefore in the exposition of the theory dynamical, physical, and geometrical illustrations are freely used. It is the aim to acquaint the student with the kind of mathematics which he will find useful and to cultivate the power of applying the principles of the calculus, at first to simple, then to more difficult, practical problems. The course is divided into three parts; for the first of them, A, a knowledge of solid geometry, trigonometry, college algebra, and plane analytic geometry is requisite.

A (18). This deals mainly with the differential calculus and applications. Mj.

B (19). Chief attention is given to the integral calculus and applications. Mj.

C (20). This provides: (1) a continuation of the treatment of several topics begun in A and B; (2) applications of the calculus; (3) a brief treatment of differential equations. Mj.

PROFESSOR WILCZYNSKI.

10. Theory of Equations (22).—The fundamental properties of algebraic equations, their transformation, and the approximate determination of their roots. Determinants, symmetric functions, and invariants. (Informal.) Mj. PROFESSOR WILCZYNSKI.

Analytical Mechanics.—(Cf. description under Astronomy 8.) DMj. ASSOCIATE PROFESSOR LAVES.

11. Differential Equations (47).—Discussion of problems which lead to differential equations and of the standard methods for their solution. (Informal.) Mj. PROFESSOR WILCZYNSKI.

12. Projective Geometry (29).—A first course in the subject based essentially on a synthetic treatment. (Informal.) Mj. PROFESSOR WILCZYNSKI.

Advanced Mechanics.—(Cf. description under Astronomy 4.) DMj. ASSOCIATE PROFESSOR LAVES.

The History of Astronomy.—(Cf. description under Astronomy 6.) Mj. PROFESSOR MYERS.

For courses for teachers of Mathematics, see pp. 68 ff.

Members of the Mathematical Department will endeavor to arrange informal courses for students who are able to do work of an advanced nature, whenever practicable.

ASTRONOMY

1. Descriptive Astronomy (1).—An elementary general-culture course designed (1) to furnish an idea of the principles, methods, and results of the science; (2) to show the steps by which the remarkable achievements in it have been attained; and (3) to unfold that extended horizon which astronomy has laid open. This work covers the recent investigations respecting the origin and development of the solar system. Moulton's *Introduction to Astronomy* (rev. ed.). (Informal.) Mj. PROFESSOR MOULTON OR ASSISTANT PROFESSOR MACMILLAN.

2. Spherical Trigonometry with Applications to Astronomy and Geodesy (2).—Through this course the student is introduced to the wide realm of geodesy and positional astronomy. Prerequisite: Plane Trigonometry. Mj. ASSOCIATE PROFESSOR LAVES.

3. Analytical Mechanics.—

A (5). An elementary course aiming to give the students a firm grasp of the physical principles involved, leaving aside at first all mathematical developments which do not contribute directly to this end. By the solution of graded problems the student is taught to use his knowledge of mathematics in the solution of concrete problems of nature. The course includes a short introduction to the underlying principles of the motion of a particle. The main body is devoted to the statics of a system of particles and of rigid bodies. Prerequisite: Differential and Integral Calculus. Mj.

B (6). Continues A and deals with the dynamics of a particle and of a system of particles. The motion of rigid bodies, together with a short study of generalized co-ordinates, completes the course. Mj.

ASSOCIATE PROFESSOR LAVES.

4. Advanced Mechanics.—

A. *The Dynamics of a System of Particles* (21).—Free and constrained motion of the material point. General principles bearing on the dynamics of systems of particles. Lagrange's generalized co-ordinates, the canonical co-ordinates of Hamilton and Jacobi, and Jacobi's partial differential equations, additions of Donkin and A. Mayer. Mj.

B. *The Dynamics of Rigid Bodies* (21A).—System of vectors, distribution of mass, instantaneous motion; dynamics of rotating bodies. Mj.

ASSOCIATE PROFESSOR LAVES.

5. Celestial Mechanics (22, 23).—A treatment of the dynamics of the solar system, including the contraction theory of the heat of the sun, the attraction of bodies, the two-body problem, determination of orbits, the general integrals of motion, the three-body problem, and perturbations. Moulton's *Introduction to Celestial Mechanics*. Prerequisite: Differential and Integral Calculus. (Informal.) DMj. PROFESSOR MOULTON OR ASSISTANT PROFESSOR MACMILLAN.

6. The History of Astronomy.—This is a culture course on the subject for persons who desire to familiarize themselves with the scientific ideas, methods, and results that have determined scientific progress down to recent times. The history of no science so fully exhibits the complete scientific method as does the history of this oldest, most complete, and most exact of all the sciences. A careful study of it may well constitute a part of a liberal education. It is both stimulating and directly helpful to teachers of high-school science and mathematics. A real basis for much of the high-school mathematics is furnished by supplying the astronomical setting from which it sprang. Mj. PROFESSOR MYERS.

PHYSICS

1. Elementary Physics.—

A. *Mechanics, Molecular Physics, and Heat* (1).—This course is designed to cover the first half-year's work in elementary physics as given in high schools and academies. A text is followed rather closely but the assignments in it are supplemented by new problems and references to other textbooks. The apparatus for the required laboratory work, together with detailed instructions for setting it up and performing the experiments, is packed in a special case and shipped to the student. Reports on both the reading and laboratory work are submitted by the student for approval or correction. A deposit of \$15.00 is required for the loan of the apparatus. This will be refunded when the same is returned intact, less expressage and \$3.00, the loan fee. Mj.

B. *Electricity, Magnetism, Sound, and Light* (2).—A continuation of course A and the equivalent of the second half-year of high-school physics. The plan for text and laboratory work laid down under course A is followed in this course. A deposit of \$15.00 is required for the loan of apparatus. This will be refunded when the same is returned intact, less expressage and \$3.00, the loan fee. Mj.

ASSISTANT PROFESSOR MOORE.

NOTE.—For courses A and B together one unit of admission credit is allowed.

CHEMISTRY

1. General Inorganic Chemistry.—The two Majors into which the work is divided furnish a review and a continuation of elementary chemistry and form the link between the average high-school course in chemistry and "Qualitative Analysis." In view of the fact that different students will have different degrees of preparation, the number of lessons may be varied by omitting such parts of the subject as the student may already have mastered; in this way the work will be adapted to individual needs, and waste of time and effort will be avoided. Students must provide themselves with a balance sensitive to one centigram, with weights 50 gm. to 0.01 gm., and must have access, at least, to a barometer. This apparatus cannot be loaned. The rest of the *apparatus* needed for either course A or course B will be loaned for a deposit of \$15.00. The *chemicals* necessary for course A will be loaned for a deposit of \$10.00, and for course B for \$15.00. When the apparatus and chemicals are returned, the deposits will be refunded, less the cost of checking, non-returnable and missing parts, breakage, carrying charges, and a fee of \$1.50 for the use of the apparatus in each Major, \$2.50 for the chemicals in course A, and \$3.50 for those in course B.

A (2S). This course includes a study of the principal non-metallic elements and their chief compounds. It includes also the study of the laws and principles of the science and their use in explanation of chemical phenomena. The laboratory work, which is an important part of the course, affords opportunity for

gaining direct knowledge of the different substances, their modes of manufacture, and their properties. In the choice of illustrations preference is given to the industrial and other applications of chemistry. Prerequisite: a course in inorganic chemistry as ordinarily given in high schools. Mj.

B (3S). Continues course A and deals chiefly with the metallic elements. Mj.
ASSOCIATE PROFESSOR SCHLESINGER.

2. Qualitative Analysis.—The second year of college work in chemistry includes two Majors of Qualitative Analysis ("A" and "B" below) and "Elementary Organic Chemistry." "Qualitative Analysis—C" is a graduate course and is taken usually after work in Quantitative Analysis. The apparatus and the reagents for any one of the following 3 Majors will be loaned for a deposit of \$30.00. If only the set of sixty glass stoppered bottles, required for the necessary solutions, is needed, they will be loaned for a deposit of \$6.00. The deposit will be refunded when the apparatus is returned, less deductions for the loan (\$1.50 for the apparatus, \$3.50 for the chemicals, \$0.50 for the bottles), checking, carrying charges, and broken and missing parts. An extra charge of \$1.00 per Major is made for "unknowns."

A (6). This course aims to present the fundamental methods of qualitative analysis. The analytical reactions of the most important metals and acids are studied. This is done in such a way that the student learns the art of performing tests and comes to understand how the methods of separation and detection are based upon a judicious selection and arrangement of these tests. During the course each student analyzes a number of simple salts and a few mixtures which contain, in each case, only the metals or acids of a single group. Qualitative analysis has been modified by the influence of physical chemistry. The theories of solution and of electrolytic dissociation and the study of problems in chemical equilibrium have all contributed to furnish analytical chemistry with a scientific foundation which it never possessed before. Course A is planned to develop the subject with this scientific, theoretical foundation and at the same time to give a thorough foundation in *systematic analysis*. Prerequisite: "General Inorganic Chemistry" (A and B) or the equivalent. Mj.

B (7). Continues course A and gives the student practice in the *systematic analysis* of simple salts, simple mixtures, and, finally, of rather difficult mixtures in which the metals and acids are to be determined. Fifteen to twenty "unknowns" will be analyzed. The main object of the course is to develop *accuracy* and *reliability*, and these must be demonstrated in the final analyses to secure credit. Mj.

C (10). Continues course B and requires the analysis of complicated mixtures, and especially the analysis of minerals and commercial products. Mj.

PROFESSOR STIEGLITZ.

3. Elementary Organic Chemistry (4).—This course is taken in the second year of college work and presents in outline a survey of the fundamental principles and of the main classes of organic compounds. For the convenience of the beginner the theoretical presentation follows in large measure the development given in one of the best college texts, but it is brought up to date, and by numerous supplementary discussions it indicates in perspective the lines of thought and development which would be followed in a more advanced study of the subject. The chemical discussion is accompanied by, and in large measure is based on, experimental work illustrating the principles presented and the chemical behavior of the important classes of organic compounds studied. On account of the inflammable nature and the high volatility of many of the compounds used there is a greater element of danger in this course than in the ordinary chemistry courses, due to the risk of fire and of explosions from faulty or careless manipulation. Directions for avoiding accidents are made as explicit as possible, but the course should be taken only by those who through experience as teachers or as workers in commercial laboratories have confidence in their own carefulness. The *apparatus* for this course will be lent for a deposit of \$25 or \$20 according to the completeness of the outfit required. When the outfit is returned the deposit

will be refunded less the cost of non-returnable, broken, or missing parts, packing, carrying, and inspection charges, and a loan fee of \$2.50. Most of the *reagents* required will be found in the average laboratory, but a number of special organic and inorganic chemicals are required which will not usually be at hand. These may be ordered from a supply house or they may be borrowed from the University for a deposit of \$5.00. When they are returned, as much of this deposit will be refunded as is not required to replace the material that has been used and any packing and carrying charges that have been paid by the University. Prerequisite: courses 1 (A and B) and 2 (A and B) or equivalents. Mj. PROFESSOR STIEGLITZ.

GEOLOGY AND PALEONTOLOGY

ACADEMY

1. Physical Geography.—This course is designed especially for high-school students or those desiring a course equivalent to that given in a first-class high school. The lessons treat of the form of the earth and its solar relationships; the work of running water, underground water, waves, glaciers, and the atmosphere as agencies which are at present, as in the past, modifying the earth's surface; and the phenomena of vulcanism and movements of the earth's crust. Some attention is given to climate. Mj. ASSISTANT PROFESSOR BRETZ.

COLLEGE

2. Physiography (1).—The course embraces the following general subjects: (1) the form of the earth as a whole and its relation to other members of the solar system, particularly the sun and the moon, with the consequent changes in the length of day and night and the seasons; (2) the atmosphere—its constitution, temperature, pressure and movements, weather changes and climate; (3) the ocean—its constitution, temperature, movements, geologic activities, coastline phenomena; (4) the land—the geologic processes by which the earth's topography has been chiefly determined and the varied topographic types which result therefrom, including the study of the origin and development of plains, plateaus, river valleys, mountains, volcanic cones, islands, and seashore features. The effects of man's physical environment upon his distribution, his habits, and his occupations will be continually emphasized. Topographic maps and folios will be studied, and the maps will be used in connection with land forms. The rocks and minerals forming the earth's crust will be treated as fully as the course permits. The last lessons will give the student some opportunity to do individual field work. Laboratory methods will receive attention throughout the course. The course is suited to the needs of those who teach physical geography and physiography in preparatory schools. Mj. ASSISTANT PROFESSOR BRETZ.

3. General Geology (5).—This course treats of the leading facts and principles of geology and the more important events of geological history. It embraces the following general subjects: (1) the materials of the earth; (2) physiographic geology—the work of atmosphere, running water, glaciers, waves and currents, and organic agencies treated in a manner to supplement the physiographic studies of course 2; (3) volcanic, diastrophic, and structural geology; (4) elementary studies in the interpretation of topographic and geologic maps; (5) historical geology—a systematic study of the development of the series of geological formations, with special reference to the evolution of the North American continent and the historical development of life-forms; (6) economic geology; (7) a special general geological report on a particular area in the student's own vicinity. This course is adapted to the needs of teachers in high schools and academies, to those interested in economic geology, and also to students not intending to specialize in geology. Course 2, while desirable, is not a prerequisite. Mj. ASSISTANT PROFESSOR BRETZ.

4. Interpretation of Topographic and Geologic Maps.—This course is intended especially to introduce teachers of high-school, normal-school, and

college grade to modern methods of laboratory work in physiography and general geology. It may also be taken by teachers of nature-study in the grades and by those interested in regional physiographic problems. It will serve as a basis for the study of the physiographic features of widely separated regions in the United States and as a supplement to the physiographic studies of courses 2 and 3. The course assumes that the successful teaching of physiography must be accompanied by a clear understanding of topographic maps and by their continued use. It is based on topographic maps of the United States Geological Survey, and a guide to their interpretation, and includes (1) general principles in the interpretation of topographic maps; (2) topographic forms resulting from the work of wind, ground water, running water, glaciers, oceans and lakes, diastrophic movements, and vulcanism; (3) interpretation of the physiographic history of specially selected regions, on the basis of topographic maps; and (4) enough work with geologic maps to show something of the connection between geologic structure and topography. Prerequisite: a knowledge of physiography equivalent to that afforded by either course 2 or 3. M. PROFESSOR TROWBRIDGE.

5. Elementary Mineralogy (3).—A course intended to familiarize students with the common minerals. A large part of the work will consist in determining, principally by means of their physical properties—streak, hardness, cleavage, specific gravity, etc.—the 85 or 90 specimens which will be furnished. The origin, occurrence, and economic uses of each mineral also will be studied. The work on minerals will be supplemented by a brief discussion of the rocks, their modes of formation, occurrence, and classification. The course is intended for beginners, and no previous geological training is required, but an understanding of a few of the fundamental principles of chemistry is highly desirable. The streak plate and the set of specimens will be furnished for a fee of \$4.00. A small hand lens and a specific-gravity balance will be very useful and if possible should be procured by the student. The set of minerals becomes the property of the student and will serve for future reference or as a nucleus for a collection. Mj. ASSOCIATE PROFESSOR BROKAW.

6. Economic Geology (2).—This course is designed to give a general knowledge of the principles governing the formation and occurrence of the more important ores and non-metalliferous deposits, and of the conditions, commercial and otherwise, which limit their exploitation. It covers the study of (1) structural materials—including building stones, clays, limes, mortars, and cements; (2) fuels—including coal, petroleum, and natural gas; (3) principles controlling the deposition of metalliferous ores—including the nature and genesis of ores, the forms of ore bodies, and their relations to the structural features of the containing rocks, the formation of cavities in rocks, underground waters, their composition, circulation, etc.; (4) ores of metals—including iron, copper, lead, zinc, gold, and silver. No attempt is made to cover the entire field, but typical districts or occurrences are studied in each case. Incidentally it is hoped the student will learn how to study a district independently and to that end he will be put in touch with the general literature of the subject. The student is expected to be familiar with the common rocks and minerals. Prerequisite: elementary chemistry and course 3 or a practical knowledge of geology gained by experience in mining, or the like. Mj. ASSISTANT PROFESSOR STEPHENSON.

GEOGRAPHY

1. Economic and Commercial Geography (3).¹—A study of production and trade as influenced by geographic conditions. The geography of the more important commercial products of farm, range, forest, mine, factory, and sea; continental and oceanic trade routes; great commercial centers, and types of commercial nations. Mj.

For other courses for teachers of Geography see p. 70.

¹ Available later in the year.

ZOÖLOGY

1. Elementary Zoölogy (1).—An introduction to the general principles and concepts of zoölogy for premedical and other students. The laboratory work includes (a) observations, dissections, and experiments upon unicellular animals (Amoeba and Paramoecium); (b) a higher invertebrate type such as the earthworm and crayfish; (c) a vertebrate type (the frog); (d) a study of embryology and of cell division. A fee of \$5.00 will be charged for the materials furnished and the loan of slides. A compound microscope magnifying 400 diameters, a hand lens, and a set of dissecting instruments will be needed. The cost of instruments (exclusive of microscope and hand lens) need not exceed \$3.75. Mj. PROFESSOR NEWMAN.

2. Elementary Entomology (4).—The course opens up the large field of general entomology, and at the same time furnishes thorough training in the elementary principles of the science. A type insect is studied intensively, and representatives of other groups are compared with the type. The student thus becomes familiar with the taxonomic structures and terminology for the same, a knowledge of which is essential in all identification work. Instruction is given concerning methods of preserving and pinning insects for collections. Students already interested in some particular insect group, or in some special phase of entomology, will be given assistance in securing and identifying material, will be supplied with special references to literature, and, if they wish, will be put in touch with others working along the same line. The expense for books will be between \$5 and \$10, and for the hand lens which the student must have, about \$2.50. A low-power compound microscope or a dissecting microscope will be helpful but not essential. Prerequisite: desirably a high-school course in biology, but mature students will be able to acquire all the necessary preliminary knowledge from the reading that will be assigned. Mj. ASSISTANT PROFESSOR WELLS.

3. Evolution and Heredity (introductory course) (5).—The course gives an unprejudiced treatment of one of the central problems of biology and is intended to serve as an introduction to more advanced special work in zoölogy and other biological branches. Yet the general student will find the work absorbingly interesting if he is prepared to read widely and to form independent judgments as to the validity of arguments and evidence. Among the topics discussed are: (1) brief survey of animal groups in the order of increasing complexity; (2) the idea of a phylogenetic tree; (3) evidences of evolution from comparative anatomy, embryology, paleontology, and geographical distribution; (4) the ancestry of man; (5) the history of the evolution idea from the Greeks to Darwin; (6) Darwinism—a critical discussion; (7) post-Darwinian hypotheses as to the causes of evolution; (8) variation and heredity as prime factors of evolution; (9) variations: size, kind, causes; (10) the heritability of variations; (11) the physical basis of heredity; (12) Mendelian heredity; (13) the facts of inheritance in man; (14) eugenic aspects of evolution and heredity. Mj. PROFESSOR NEWMAN.

4. Genetics and Eugenics.—This course has no technical prerequisite, but it may advantageously follow course 3, since it treats fully certain aspects that could only be outlined in that course. Students are directed to the best and most recent literature on the subject available. Among the topics dealt with are: (1) the facts and factors of development; (2) the cellular basis of heredity; (3) the biology of sex and the mechanics of sex determination; (4) the inheritance of acquired characteristics; (5) the most recent developments of Mendelian heredity; (6) heredity of physical and mental traits in man; (7) the principles of eugenics; (8) parenthood and race culture; (9) eugenic programs; (10) eugenic legislation. Mj. PROFESSOR NEWMAN.

5. General Morphology and Natural History of the Invertebrates.—

A. Protozoa, Porifera, Coelenterata, Platyhelminthes, Nemathelminthes, and Echinodermata (15).—An introduction to the study of invertebrate animals. The

work includes laboratory study of the anatomy, physiology, and, as far as possible, of the life-history of typical forms, together with assigned reading. Special emphasis is laid on the economic importance of the animals considered. The fundamental principles of comparative morphology are kept in view throughout the course. In addition to the study of the material furnished (about thirteen forms) the student will be expected to acquaint himself with some of the typical invertebrates of his own locality, and directions for the collection and determination of such forms will be given. The securing of the protozoa studied in the course is a part of the laboratory work, and since protozoa must be cultivated in infusions, which require from one to three or four weeks, the student should not delay registration until he is ready to begin work. Instructions for making infusions will be sent with the first lessons. Fee for material and loan of more difficult preparations, \$5.00. Mj.

B. Mollusca, Annelida, and Arthropoda (16).—Continues A, and completes the study of the invertebrates, including the most interesting group, the insects. About twelve forms, including some especially prepared, are furnished. Dissection of the clam, snail, squid, earthworm, clam-worm, lobster, spider, grasshopper, and several other insects, and study of habits, physiology, and life-histories of these forms are required. The fee for materials and the loan of the more difficult preparations, including slides illustrating adaptation among insects, is \$6.25. Mj. DR. HYMAN.

6. Vertebrate Zoölogy (17).—An introduction to the study of the vertebrates and their relatives. The laboratory work includes dissection of the dogfish, turtle, and cat, and the preparation and study of the skeletons of several animals. Material with circulatory systems injected will be furnished, and in addition the student must provide two or three easily obtainable forms. The work is strictly comparative, i.e., each system of organs is taken up and its progressive change from the lowest to the highest forms is followed. The cost of dissecting instruments and the books will be about \$15.00. Fee for materials, \$6.00. Prerequisite: course 1 or its equivalent. Mj. DR. HYMAN.

7. Vertebrate Embryology (20).—A course indispensable for the teacher of zoölogy and fundamentally important to all who wish to understand the origin and development of the human structure. The study includes (a) laboratory work on the development of the chick and the pig, dissection of pig embryos and of a pregnant pig uterus; (b) assigned readings on the development and structure of the sexual cells, fertilization, early development of vertebrates in general, and of the chick and mammals, including man, in particular; (c) formation of embryonic membranes; human membranes and placenta, later development of various systems, especially the nervous system, the alimentary canal, the circulatory system, and the urino-genital system. The student must provide, if possible, living chick embryos. A compound microscope, magnifying 200 diameters, a dissecting microscope (if not obtainable, a good hand lens may be substituted), and a few dissecting instruments are required. The deposit for the loan of the necessary slides and for the materials furnished is \$10.00. When the slides are returned this deposit, less \$3.00, will be refunded. Prerequisite: course 1 or its equivalent and desirably "Vertebrate Zoölogy." Mj. DR. HYMAN.

8. Elementary Animal Ecology.—Ecology treats of the relations of organisms to their environment. This relation is illustrated by the reactions of the animals to the environmental factors, such as light, temperature, moisture. The reactions, in turn, determine the distribution of the animals. This course will help the student to become acquainted with the great variety of animal forms that he will find existing in his own locality. He will become familiar with the habits of the many species of animals and will learn how, when, and where to find them. At the same time he will be taught how to collect, preserve, and identify the species that he finds. Assistance by means of written directions and outlines and by suggested and required reading makes up the formal part of the course. The expense for books and apparatus will be about \$5.00. (Informal.) Mj. ASSISTANT PROFESSOR WELLS.

9. Economic Zoölogy.—In this course the student is introduced to the different animal groups from the economic point of view. The collateral reading and formal lessons are planned so as to build upon previous morphological knowledge of animals a knowledge of the importance of each group in the economy of man. Thus the animals that furnish food, that destroy crops, that carry and produce disease, etc., are taken up in turn. The course is arranged so that it may be adapted to the region in which the student lives, and thus he may make a particular study of the economic forms in his own locality. This study will form an illustrative basis for the study of groups in other localities and countries. The methods of study will combine those of ecology, physiology, and general life-history work. Only students who have completed courses in the morphology of the invertebrates and the lower vertebrates will be admitted. The total expense for books and apparatus will be about \$10.00. The materials required will differ in individual cases. Mj. ASSISTANT PROFESSOR WELLS.

10. Advanced Animal Ecology (52).—This course is designed primarily for students who have taken courses in animal ecology in residence. It consists largely of definite systematic field work which may mean work on some ecological problem. All the animals of certain habitats will be studied in relation to each other and to the environmental conditions with which they come in contact. Simple analyses of environmental factors may be attempted in some cases. The student must consult the instructor before registering. (Informal.) Mj. ASSISTANT PROFESSOR WELLS.

11. Graduate Reading in Zoölogy.—This course is planned to serve the function of a seminar course in residence. Selected reading along different lines in zoölogy or general biology will be planned by the instructor, and topics for written theses and criticisms will be assigned. The following seminar courses will serve as a basis of choice: "Problems in Morphology and Phylogeny"; "Problems in Genetics and Experimental Evolution"; "The Biology of Sex"; "Experimental Embryology." If the student has a particular interest in some field not included under these heads, it may be possible to lay out a course of reading with theses. Prerequisite: at least two years of college zoölogy or its equivalent. (Informal.) Mj. PROFESSOR NEWMAN.

For other courses for teachers of Science see p. 70.

PHYSIOLOGY

1. Introductory Physiology.—The object is to develop an appreciation of the human body. This necessitates a knowledge of its structure and the work of its parts separately and as a whole. Knowledge of this kind is a necessary foundation for advanced study and should be the possession of every intelligent person, for without it effective co-operation in the modern methods of healing and preventing disease, as practiced by physicians, is impossible. A further use of physiological facts is their application to methods employed to solve many social problems of today. To teachers such knowledge is especially valuable. It enables them to use and conserve the bodily powers both of themselves and of their pupils and to analyze intelligently deficiencies exhibited by their pupils and so to make proper adjustments.

A (1). This is essentially a summary of the history of the processes by which food gets into the blood. In the *textbook work*, after stating the point of view from which the subject is to be attacked, the following topics are discussed: (1) life—theories advanced to explain its nature, conditions necessary for its existence; (2) protoplasm, cells, tissues, organs and their relations and, incidentally, the subject of "division of labor"; (3) blood—its structure, components, and use; (4) respiration; (5) digestion and digestive fluids; (6) secretion and absorption. In the *laboratory work*, which will require a microscope for a short time (two weeks or so), directions will be given for the study of (1) blood; (2) properties of foods; (3) the changes which food undergoes under the action

of the various digestive fluids. Some knowledge of chemistry is essential. The requisite laboratory equipment and materials will be loaned for a deposit of \$15.00. Mj.

B (2). Continuing A, study is made of (1) how the blood with its acquired foods is distributed throughout the body (circulation); (2) how the lymph gets to the cells; (3) history of food in the body cells—fats, glycogen, muscle, nerve, the various tissues, their physiology and metabolism, are discussed; (4) excretion; (5) animal heat. Directions are given for making the necessary experiments to illustrate physiological methods and the physiology of the organs of circulation, muscle, and nerve. The requisite laboratory equipment will be loaned for a deposit of \$15.00. Mj.

C (3). Continuing B, study is made of the physiology of the brain, cord, and senses. The course aims also to give general acquaintance with the structure of the central nervous system. Known facts in its physiology are discussed, and so far as possible the methods by which these facts have been ascertained are explained. The main facts of the anatomy and physiology of the brain, eye, ear, and other sense organs are brought out through dissection, for which full directions are furnished. Mj.

ASSISTANT PROFESSOR LINGLE.

NOTE.—The deposit for either A or B will be refunded when the set of apparatus is returned, less charges for breakage, expressage, and a loan fee of \$3.00.

BOTANY

1. General Morphology of the Algae and Fungi (7).—This course consists of twelve exercises covering the ground of the laboratory work of the twelve weeks' course given at the University. The fifty types studied represent all the main groups of algae and fungi. In connection with a study of the structure, development, and relationships of the various forms, the principal problems considered are (1) the evolution of the plant body, (2) the origin and evolution of sex, and (3) parasitism, saprophytism, and symbiosis. This is pre-eminently a course for beginners, but it is also adapted to the needs of teachers who, though acquainted with the older style of botany, desire an introduction to the more modern phases of the subject. The material in many of the types is sufficient for a class of eight or ten students. An additional fee of \$2.50 is charged for the material and the loan of preparations. The applicant must have access to a compound microscope with a low- and a high-power objective, the latter being a $\frac{1}{2}$, a $\frac{1}{4}$, or a $\frac{1}{8}$, preferably a $\frac{1}{4}$. Mj. PROFESSOR CHAMBERLAIN.

2. General Morphology of the Bryophytes and Pteridophytes (8).—A course similar to the one on algae and fungi and requiring that course or its equivalent as a prerequisite. The structure, life-histories, and relationships of the liverworts, mosses, and ferns are studied in characteristic types. The principal problems considered are (1) the evolution of the sporophyte, (2) the reduction of the gametophyte, (3) heterospory, (4) alternation of generations, and (5) an introduction to modern phases of vascular anatomy. As in course 1, a compound microscope and skilfully stained preparations, involving a knowledge of micro-technique, are needed. Arrangements have been made whereby a limited number may secure the material and a loan of the necessary preparations for \$5.00. No one should register without consulting the instructor. Mj. PROFESSOR CHAMBERLAIN.

3. General Morphology of the Gymnosperms and Angiosperms (9).—A course similar to the two preceding courses and requiring both of them (or their equivalent) as a prerequisite. Aside from a study of the structure and development of typical forms the most important features of this course are a study of vascular anatomy, floral development, spermatogenesis, oögenesis, fertilization, embryology, karyokinesis, and a brief survey of Engler's scheme of classification. A compound microscope is needed, as in courses 1 and 2. No one should register

without consulting the instructor. Fee for material and the loan of the more difficult preparations, \$5.00. Mj. PROFESSOR CHAMBERLAIN.

NOTE.—Courses 1, 2, and 3 are designed to give the student a comprehensive view of the structure, development, relationships, and problems of the plant kingdom. These courses form the necessary foundation for all advanced work, whether the advanced work be morphology, physiology, ecology, or taxonomy. They are required of all who make botany their principal subject for the Bachelor's degree, and are required of all who make botany either the principal or the secondary subject for any higher degree. The development of a clear, bold style of scientific drawing receives attention in all of these courses.

4. Elementary Plant Physiology (2).—This course aims to give the student a general knowledge of the life-processes of higher plants and is introductory to the advanced courses in the subject given in residence. The work will consist of experiments illustrating the different topics, together with assigned reading in a standard textbook. It is adequate to meet the needs of high-school teachers. For the experimental work little more apparatus will be needed than that found in the physical and chemical laboratories of the average high school. A list of required articles will be furnished on application. Reports of both reading and experiments will be called for and will be returned with corrections. Anyone registering should realize that serious difficulties will be encountered unless some facilities for growing plants are at hand. This difficulty can be met by doing the work during the summer months. The student must consult the instructor before registering. Mj. ASSOCIATE PROFESSOR CROCKER.

5. Elementary Plant Ecology (3).—This course covers essentially the same ground as Coulter's *Plant Relations*, and does not necessarily require previous botanical training, though some work in plant analysis and in the study of plant structures is highly desirable. The object of the course is to present to the student the factors which influence the functions, form, and distribution of the common plants of his neighborhood. At first the different forms of leaves, stems, and roots are studied; then the plant is taken as a whole with respect to the advantages it possesses in the struggle for existence because of a particular structure—leaf, root, or stem. Under the subject of stems the identification of the common trees is required. The work may be carried on chiefly out of doors, and no microscope is needed. Mj. DR. FULLER.

6. Introduction to the Principles of Plant Production (24).—This is chiefly a reading course of general nature dealing with the main physiological, educational, and economic factors influencing plant production in the United States. Several phases of the work involve simple experiments, but these call for little apparatus. Some of the topics considered are (1) a brief history of our knowledge of plant nutrition; (2) soils as influencing plant growth and production; (3) seeds and germination of seeds of economic plants and weeds; (4) water relations of plants; (5) synthesis of foods and their uses in plants; (6) reproduction and fertilization and physiology of budding and grafting. On the educational and economic side a brief history is given of the development of agricultural colleges, experiment stations, and extension work in the United States, especially the impetus given in these lines by national acts (Morrill, Hatch, and Adams acts and the Smith-Lever bill) and by the work of the General Education Board. In addition to the textbooks constant use will be made of various agricultural bulletins and other scientific pamphlets. In case the pamphlets cannot be obtained gratis they can be borrowed from the Correspondence-Study Department for a nominal fee. This course should be attempted only by persons having a fair general knowledge of botany. It is designed to give teachers of elementary agriculture a thorough grasp of the principles underlying their subject. Mj. ASSOCIATE PROFESSOR CROCKER AND DR. ECKERSON.

7. Elementary Forestry.—The principal subjects covered by this course are (1) the identification of trees by the use of keys and other helps; (2) the life-relations of trees, that is, trees as influenced by light, soil, temperature, wind, animals, and by the struggle for existence; (3) the composition and distribution of the forests of the United States; (4) some economic aspects of forestry,

namely, the proper care and management of the forests, including plans for improvement cuttings, for reproduction, and for protection from fire. The object of the course is to impart an elementary general knowledge of forestry, including the forestry problems in the United States, and it is offered primarily to teachers in the belief that they can do much to influence public opinion in regard to one of the most important economic problems confronting the country. Textbooks are used, but whenever practicable they are supplemented by field exercises on some limited forested area selected by the student. Mj. DR. HOWE.

8. Ecological Plant Anatomy (30).—This course is a continuation of course 5 and commands graduate credit. It involves a careful study of the absorptive, conductive, synthetic, protective, and storage tissues of plants in relation to their functions, with special attention to the variations of structure in so far as they depend upon changes in environment. Students electing this course should have a knowledge of elementary botany and be somewhat familiar with the use of the microscope. The student must have access to a good compound microscope, and if the work is to be done during the winter, access to a greenhouse is very desirable. Fee for materials and loan of slides, \$2.50. Mj. DR. FULLER.

9. Field Ecology (36).—This course is designed primarily for those students who have taken residence courses in ecology and who desire to pursue further investigations along this line. The work consists very largely of systematic study in the field. A definite region or plant formation may be made the subject of study, or some problem may be selected in the ecology of plant structure or behavior. In case the work undertaken involves the use of special material and instruments it may be possible to borrow them from the University for a special fee. (Informal.) Mj. PROFESSOR COWLES OR DR. FULLER.

10. Elementary Plant Anatomy.—A study of the tissues and tissue systems of vascular plants from the standpoint of phylogeny. This work is very different from the old anatomy in which facts were presented without any attempt to relate them to each other. The course deals with the morphology and evolution of the vascular system, and is based upon a comparative study of representative juvenile and adult forms of Pteridophytes, Gymnosperms, and Angiosperms. A microscope magnifying about four hundred diameters is necessary. An extensive knowledge of micro-technique is not essential. Directions for preparation of material and making of the necessary mounts will be given in the exercises. Fee for material and loan of slides, \$2.50. Mj. ASSOCIATE PROFESSOR LAND.

11. Methods in Plant Histology (4).—This course deals with the principles and methods of killing, fixing, imbedding, sectioning, staining, and mounting. The student must have access to a compound microscope magnifying at least four hundred diameters, a microtome, and some other apparatus and reagents. A fee of \$2.50 is charged for plant material which is not readily collected at all seasons. No one should register without consulting the instructor. Mj. ASSOCIATE PROFESSOR LAND.

For other courses for teachers of Science see p. 70.

HYGIENE AND BACTERIOLOGY

ACADEMY

1. General Bacteriology and the Relation of Bacteria Yeasts and Molds to the Household, Dairy Industries, and Agriculture.—This is primarily a culture course designed for those who do not wish to go to the expense of setting up a laboratory and will consist of (1) simple experiments at home; (2) examination and description of sealed cultures; (3) writing of themes on assigned subjects; (4) selected readings. [This course commands admission credit only.] Mj. DR. CARY.

COLLEGE

2. Bacteriological Methods (2).—The following subjects will be covered: (1) principles of sterilization; (2) manipulation of the microscope; (3) rôle of bacteria; (4) methods of growing bacteria; (5) methods of staining bacteria; (6) description of bacteria; (7) bacteriology of water and milk. The applicant must have access to a compound microscope with a low-power and a high-power objective. If all the apparatus is purchased it will cost approximately twenty dollars exclusive of the microscope, but many of the parts can be extemporized. A complete set of the apparatus needed, packed ready for shipment, can be supplied for about \$20.00. Course 1 is not prerequisite. *Mj. DR. CARY.

3. Public Hygiene (3).—This is a reading course exclusively. The following subjects are covered: dissemination of disease, preventive measures; hygiene of food, water, and milk supplies; housing; ventilation; personal hygiene, etc. Prerequisite: high-school chemistry, "Bacteriological Methods," and "Introductory Physiology A" or equivalent training. M. DR. CARY.

4. Advanced Bacteriology.—A series of courses designed for those interested in some particular branch of bacteriology, e.g., medical, sanitary, agricultural, etc.

A. Yeasts, Molds, and Acetic-Acid Bacteria.—A course designed especially for those wishing to prepare themselves for the practical use of bacteriology in fermentation industries. The general methods of studying this class of microorganisms are studied and practical work proposed. *Mj.

B. Water Analysis.—This course covers the methods of bacterial water analysis and follows closely the recommendations of the committee on standard methods for water analysis which are used in private and public health laboratories. *Mj.

C. Milk Analysis.—This course gives the practical bacteriological methods for milk examination, including the various factors that contribute toward a high bacterial count and methods that should be used in the production of high-grade milk. *Mj.

D. Bacteriological Examination of Soil.—An elementary course in soil bacteriology, giving the methods now in vogue for investigation of soil conditions. Some knowledge of chemistry is required. *Mj.

DR. CARY.

* On account of the danger involved in handling bacteriological material and cultures of bacteria without careful supervision, exactly the same kind of work that is required of students in the residence courses cannot be demanded of those at a distance. Consequently the quantity of credit that can be allowed for these courses is variable—depending in large measure upon the quality of the work performed by the student after he has come into residence.

LIBRARY SCIENCE

1. Technical Methods of Library Science.—This is an elementary course designed especially for those who are already in library positions and are unable to leave for resident study. It deals chiefly with cataloguing and classification, with a few general lessons on accessioning, shelf-listing, bookbinding, periodicals, and loan systems. It is felt that no library training can be complete without personal familiarity with the "tools" of the profession and modern methods of work. Hence it is hoped that students taking this course will find it possible later on to supplement the work thus begun by resident study at some library school. While credit is not given for correspondence courses in any such school, familiarity with library methods will make residence work easier for the student. As preparation for this course two years of college training or its equivalent is required. Practical experience in library work will count much in the applicant's favor. The course consists of twenty-four lessons. Mj. Miss ROBERTSON.

EDUCATION

THE HISTORY OF EDUCATION

1. History of Modern Education (4).—This course opens with a brief survey of the schools of mediaeval Europe and then passes to a detailed account of the important educational institutions and theories that have flourished since 1500. Throughout a deliberate attempt is made to connect social and economic changes with educational changes and to show that the former precede and determine the latter. Moreover, the aim is to give an adequate presentation of a few typical representative men and movements, rather than a sketchy, encyclopedic enumeration of many.

A. Elementary.—In harmony with the principles just set forth the following topics will be studied: (1) the types of elementary schools existing in 1500; (2) the influence of commerce, of inventions, of written vernacular literatures, and of the Reformation and Counter Reformation upon elementary education; (3) an account of the curriculum and methods which characterized elementary schools in America and Europe prior to 1800; (4) early attempts at reform, e.g., by La Salle and Lancaster; (5) the passing of education from clerical to public support and control in Germany, England, and America; (6) prominent reformers since 1750, notably Rousseau, Pestalozzi, Herbart, and Froebel. This course should appeal especially to superintendents, elementary-school principals, supervisors, and teachers, and should be of interest and value to all students of education. M.

B. Secondary.—This course covers the same period as the preceding, but sets forth the salient points in the development of secondary education. Some of the topics treated are (1) Vittorino da Feltre as typical of the early Renaissance teacher; (2) Sturm as exemplifying the teaching of the later Renaissance and the Protestant Reformation; (3) Loyola and the Catholic Counter Reformation; (4) the Latin grammar school in England and America; (5) Comenius and the movement directed toward widening the curriculum and improving the methods of teaching Latin; (6) Milton and the Nonconformist academies; (7) Franklin and the American academy; (8) the movement toward public support and control of secondary education, culminating in the American high school; (9) recent developments in manual training, junior high schools, technical education, etc. Superintendents, high-school principals, and high-school teachers should find this course helpful in gaining a clearer conception of the development of education. It may be taken independently of, or as supplementary to, the preceding course. M.

MR. GONNELLY.

2. Introduction to the History of American Education (10).—A brief review of European social and educational conditions in the sixteenth and seventeenth centuries, particularly in England and Holland, is made in order to secure a background for the study of American colonial conditions. The following topics are then studied: (1) the transplanting of European educational institutions and practices, and their modification to meet colonial needs; (2) comparisons of general social conditions in the several colonies and the resulting contrasts in educational development; (3) the development of a few typical and contrasting state systems; (4) the influence of the development of the factory system and the growth of large cities during the nineteenth century; (5) secondary education; (6) teacher-training; (7) educational extension; (8) higher education; (9) agricultural education; (10) recent movements. This course should appeal not only to all administrators and teachers who desire to secure a preliminary survey of the development of education in America but also to general readers who may feel an interest in the growth of an institution which today involves the expenditure of about one-half billion of dollars annually. The content and method of the course have been influenced by the belief that the greatest service the history of education can perform is to induce executives and teachers to analyze their problems more intelligently in the light of past theories

and practices. Actual schools and schoolroom practices will be stressed much more than abstract theory. Mj. MR. GONNELLY.

3. A Comparative Study of Foreign School Systems (41).—The course will be devoted mainly to a study of the schools of Germany. It will trace the historical development of the existing systems of elementary and secondary education as an expression of the religious, social, and industrial ideals that have dominated the people, with especial emphasis upon the influence on public education of ecclesiasticism, humanism, realism, and nationalism. For purposes of comparison some attention will be given to the schools of England and France and to present tendencies in reorganization of education in the Orient. Mj. PROFESSOR BUTLER.

ADMINISTRATIVE AND SOCIAL ASPECTS OF EDUCATION

4. Educational Administration: Introductory Survey (30).—A general survey of the field of educational administration, designed to give the student a selected, technical bibliography of the field of school administration, an adequate acquaintance with typical problems of the field, and an introduction to the recent statistical and measuring methods of treating school problems. The larger topics taken up are (1) problems of school organization and administration—present conditions and established principles concerning school boards; (2) financing the public schools; (3) the business management of city schools, school accounting, and school costs, construction, operation, and maintenance of buildings, administration of supply department; (4) problems of the teaching staff—training certification, rating the efficiency of instruction, salary schedules; (5) problems centering around the pupil—elimination, retardation, and acceleration, grading and classification, promotion systems, methods of grading student work—teachers' marks; (6) brief perspective of the measuring movement in education—standard tests, scales, school surveys; (7) miscellaneous topics—the school census, school records and reports. Mj. ASSOCIATE PROFESSOR RUGG.

5. Elementary-School Administration and Supervision.—This course is for principals and supervisors of elementary schools and for superintendents in the smaller cities. It includes a study of such topics as (1) the making of curricula and time schedules of classes; (2) bases for selection of teachers; (3) standards of efficiency and grading of teachers; (4) effective methods of supervision and constructive criticism of teaching; (5) the faculty meeting; (6) departmental teaching; (7) individual promotions; (8) the fast and the slow child; (9) teaching children how to study; (10) physical and medical supervision; (11) the use of standard tests; (12) the use of statistical material; (13) the school library and the museum; (14) the organization of field excursions and trips to industrial plants; and (15) meetings of parents and teachers to discuss school questions. The administrative officer ought to gain from this course an increased realization of the nature of the problems which his school presents and a knowledge of the means for their solution that are being used successfully elsewhere. The course involves making a study of the local school. Mj. MR. GILLET.

6. High-School Administration (36).—This course is planned for high-school principals, teachers interested in the administrative aspects of the high school, and superintendents. It deals with the practical problems of secondary-school administration, including the relation of the high school to the elementary school and to the college; the use of grades and statistical studies as tests of efficiency; the making of curricula and of programs; the reorganization of the material of secondary education; the junior high school; faculty organization; classroom management; discipline; social organization; moral instruction and training. The material of the course is definitely related to actual school conditions, particularly to those in the University High School. Mj. MR. JOHNSON.

7. Principles of Secondary Education (37).—The course will discuss education as training for social efficiency; the intellectual, social, physical, and moral

elements in education; adolescence; the high-school curriculum; handicrafts in secondary education; electives; the extension of the high-school course by the addition of two years; "the many-sided interest"; sending boys and girls to college. The student will be expected to make a study of schools in his neighborhood and to make reports upon these schools in relation to the general topics studied. Mj. PROFESSOR BUTLER.

8. Industrial Education in Public Schools (57).—This course is planned for teachers or supervisors of industrial education, for superintendents and principals, and for others interested in the organization and administration of industrial courses. The first part of the course considers the modern industrial situation, with sufficient attention to historical development to indicate the trend of present-day conditions. The remainder of the course is devoted to a discussion of educational provision on the various levels of instruction to meet this industrial situation. Especial study is made of (1) prevocational work on the junior high school level; (2) unit trade courses in the senior high school; and (3) continuation, co-operative, apprentice, evening, and factory schools. The material of the course will be definitely related to practical problems of the community in which the individual student works. Mj. MR. FILBEY.

9. Vocational Guidance (59).—The course includes a survey of the development of various efforts which have been made within and without the schools to secure a more rational adjustment between educational institutions and the usual vocational experiences of young people as they leave school and enter occupations. The purpose of the course is to encourage school officers and teachers to forward this movement by bringing to their attention illustrative examples of vocational guidance in the public schools of the United States. Such topics as guidance, placement, employment supervision, vocational analysis, analysis of personal characteristics, cumulative school records, vocational guidance surveys, and vocation bureaus will be discussed. Special attention will be given to the relation between industrial education and vocational guidance. The student will have his attention called to the literature of the subject, classified as follows: (1) that discussing the need of vocational guidance in view of existing conditions; (2) that describing modern industrial conditions; (3) that discussing the introduction of vocational guidance into public-school systems; (4) that illustrating the kind of guidance literature which may be put into the hands of pupils; (5) that dealing with the methods of analyzing an occupation; and (6) that discussing the analysis of personal characteristics. The course is especially adapted to the needs of superintendents, principals of high schools, and those planning to fit themselves for vocational counseling. Mj. MR. FILBEY.

EDUCATIONAL PSYCHOLOGY AND EXPERIMENTAL EDUCATION

10. Genetic Psychology (63).—This course deals with the facts and conditions of mental development. It includes the growth of the capacities and instincts of the child due to his increasing maturity, and also those changes which are produced by training and which are commonly called learning. Among the topics treated are (1) the nervous system and its development; (2) heredity and environment; (3) play, interest, imitation, and independence; (4) speech; (5) social instincts; (6) development of skill and of perceptions; (7) memorizing; (8) problem-solving; (9) transfer of training; (10) mental hygiene. Mj. ASSOCIATE PROFESSOR FREEMAN AND ASSISTANT PROFESSOR ASHLEY.

11. The Psychology of School Subjects.—This course endeavors to apply psychological principles, as determined experimentally either in laboratory or classroom, to the problems which confront one in dealing with the subjects of our curricula. Effort is made to render the course as practical and helpful as possible; hence abstract and theoretical discussions will receive little attention. The actual learning process of the child's mind in gaining a comprehension of the branches of study will be emphasized. The following types of learning will be studied in considerable detail: (1) sensorimotor, (2) perceptual, (3) fixing of associations, (4) abstract thought. In all the work the aim is constantly to

utilize psychology in the educational field in much the same way that mathematics is employed in the field of engineering. The instructor's belief is that principles, determined by scientifically controlled experiments, should form the basis of our educational practices.

A. *Elementary-School Subjects* (64).—The principles of learning will be set forth in order that they may shed light upon the problems of method involved in teaching these subjects: (1) handwriting; (2) spelling; (3) reading; (4) music; (5) grammar; (6) handicrafts; (7) geography; (8) history; (9) arithmetic; (10) civics; (11) natural science; (12) physiology; and (13) drawing. Some more general matters also will be presented, viz., assignment, the recitation, motive, etc. This course will aid superintendents, supervisors, principals, and teachers in gaining a more intelligent comprehension of the learning process. M.

B. *High-School Subjects* (65).—In this course the principles of psychology will be applied to the subjects taught in the secondary school. Topics treated are as follows: (1) the psychology of language; (2) individual differences; (3) industrial courses; (4) science; (5) interest and its relation to learning; (6) mathematics; (7) history; (8) the fine arts; and (9) teaching pupils to study. This course should prove of value to superintendents, principals, and high-school teachers who wish to improve their ability to analyze, interpret, and criticize teaching and to evaluate their own efforts. M.

MR. GONNELLY.

12. *The Teaching of Industrial Arts* (93).—This course is planned for teachers or supervisors of industrial arts and unit trade courses. Some time is given to a survey of the field with a view to fixing the point of view and developing the standards of work on the junior and senior high-school levels of instruction. An analysis is made of the teaching process in connection with industrial arts and trade courses. This analysis is made the basis for a discussion of (1) the teaching problems centering around the development of tool technique; (2) the carrying through of problematic work; (3) the organization of work on the productive shop basis; and (4) training for ease and facility in the use of reference material. Attention is given to the matter of standard scales and grading and checking systems. Professional literature of the subject is reviewed and liberal reference is made to that part of experimental psychology and general methods which bears on the problems of industrial arts and trade teaching. While the course is a general one dealing with drawing and shopwork in both junior and senior high schools, there is an opportunity for special investigation along a single line to meet the need of those primarily interested in the teaching of a single unit. Mj. MR. FILBEY.

13. *Statistical Methods as Applied to Educational Problems* (72).—This course aims in a threefold way to give the student thorough acquaintance with both theory and practice in the statistical treatment of educational material. (1) It organizes the statistical literature in such a way as to make clear the principal types of technique used in educational research; (2) it gives opportunity for the development of skill in the manipulation of those statistical methods which it is necessary to employ in the administrative and experimental problems in education; (3) it will provide discussions and interpretations of the statistical methods employed in typical scientific studies in education. Portions of those studies that involve the use of statistical studies will be read and discussed critically. Data secured from concrete problems of school administration will be used as a basis for practical work in treating statistical measures. For graduate students and undergraduate students who have had teaching and administrative experience. Mj. ASSOCIATE PROFESSOR RUGG.

14. *Educational Measurements* (77).—In this course an intensive study will be made of the recent measuring movement in education. It will include a study of units and standards in measuring specific educational product: (1) a brief historical perspective of the measuring movement; (2) fundamental principles and issues underlying the demand for standards; (3) attempts to standardize the content of the course of study—the recent movement to determine

scientifically the minimum content for the elementary curriculum; standard content for certain secondary subjects; (4) an organization of the principal tests which have been designed to measure the outcomes of specific studies in (a) elementary curriculum: handwriting, reading, arithmetic, spelling, drawing, English composition; (b) high-school curriculum: studies aiming at standards in mathematics, German, English, etc.; (5) a critical discussion of the validity of the tests and the determination of sound principles of design and method of construction; (6) the correlation of various attempts to work out standard tests; (7) the use of standard tests to the administrator; to the teacher in the improvement of classroom efficiency; to school surveyors. Mj. ASSOCIATE PROFESSOR RUGG.

15. An Introduction to Child-Study.—Child-study in the widest sense aims to give scientific information concerning the normal life of children. Necessarily it emphasizes natural growth and normal functioning in every aspect, but it must touch upon abnormal growth and the conditions and situations that influence favorable and unfavorable physical and mental constitution and action. This course is designed principally to acquaint students with such phases of the physical and mental life of children of school age as the hygienist and teacher should be familiar with. It reviews the main problems that have been or are being investigated, as well as the current methods of correcting, standardizing, and presenting data concerning child growth and education, and suggests lines of inquiry that are of vital interest to the well-informed worker with children. Mj. DR. MACMILLAN.

16. Classifications and Care of Children.—This course will deal with a special problem of child-study, namely, the variations that differentiate children. Starting with the characteristics common to all children, it will emphasize the varieties or departures from the common or typical which require special care in the home and special training and opportunities in home and school. While primarily designed for students who aim to specialize in the investigation, or the teaching, or the care and treatment of special children, much of the course can be made adaptable to meet the interests and needs of regular teachers and mothers. Prerequisite: course 15 or its equivalent. Mj. DR. MACMILLAN.

EDUCATIONAL METHODS

17. Introduction to Education (1).—This course is a survey of the most important problems in education by means of a brief consideration of the chief topics in the various branches of the subject. The student is introduced to some of the fundamental conceptions of (1) the psychological aspects of the child's development as it may be influenced by training; (2) the choice of subjects of study and its relation to the child and the community; (3) the forms of organization through which the school is administered; and (4) the method of teaching and of classroom management. The topics are treated with some reference to their historical background. The course is designed to give the student a general view of the whole field as a prelude to later, more detailed study of its special divisions. Mj. ASSOCIATE PROFESSOR FREEMAN AND MR. GONNELLY.

18. Methods of Teaching in Elementary Schools (86).¹—It is the purpose of this course to survey the field of general methods in elementary-school instruction. Methods of classroom procedure are examined in the light of psychological principles and the results of experimental and statistical investigations. Following a preliminary study of the fundamental aims of elementary-school instruction, the native endowment of the child, and the selection of subject-matter, the course deals with: (1) methods of employing interests; (2) forming habits; (3) memorizing; (4) making instruction thought-provocative; (5) teaching abstract ideas; (6) cultivating appreciation; (7) using play; (8) taking account of individual differences; (9) supervising study; (10) realizing the general value of training; and (11) measuring the results of teaching. The discussion of general

¹ Registrations will be accepted after January 1, 1919.

methods is supplemented by classroom observations and an analysis of best current practice in the teaching of several elementary-school subjects. The course is designed primarily for teachers and principals now in service. Mj. ASSISTANT PROFESSOR BREED.

19. Methods of Teaching in High Schools (87).—This is a course in general, as opposed to special, methods of high-school instruction. It deals, therefore, with methods of teaching common to all high-school subjects or important groups of them. It is a course in classroom teaching, not general administration. After a few preliminary lessons on (1) the aims of high-school instruction, (2) selection and arrangement of subject-matter, and (3) business management in the classroom, the course continues with a detailed study of important types of learning involved in high-school subjects, as follows: (4) acquiring motor control; (5) associating symbols and meanings; (6) forming habits of reflective thinking; (7) developing ability in verbal expression, and (8) acquiring habits of literary enjoyment. After a discussion of (9) methods of drill in relation to the foregoing types of learning, the course concludes with a treatment of: (10) individual differences; (11) interests and economy in learning; (12) supervised study; (13) the use of books; (14) laboratory methods; (15) skill in questioning; and (16) measuring the results of teaching. Students are required to supplement their study of theory with several high-school observations and the solution of numerous practical problems. Mj. ASSISTANT PROFESSOR BREED.

METHODS IN DIFFERENT SUBJECTS

KINDERGARTEN-PRIMARY

1. Primary-School Methods (3).—This course is planned for the practical help of primary teachers, kindergartners, and supervisors. It will consider: (1) the intrinsic relations between the kindergarten and primary grades; (2) various factors in the making of a curriculum for the first three grades and the organization of subject-matter in these grades; (3) the relative proportion and the relation of children's independent work at their seats to the recitation period and the character of such work; (4) the relation of reading, writing, number, and constructive work to the rest of the program; (5) the simplifying and unifying of the day's program. Since the teaching of reading is rather the unique problem of the primary grades, especial attention will be given to a discussion of the principles involved, legitimate tests of what constitutes good reading, and prevalent methods considered in the light of these premises. Each lesson will give an opportunity for help in meeting individual problems in the subject under consideration. The aim is to enable teachers to organize work in the primary grades effectively and to carry out work already organized more intelligently and successfully. Mj. MISS WYGANT.

HISTORY

2. History for Primary Grades (1).—This course is designed for teachers in primary grades and also for supervisors and principals. It aims: (1) to show the principles upon which subject-matter should be selected for the children of the lower grades; (2) to assist the teacher in outlining a course of study; (3) to give practical help in methods of presenting subjects to children; (4) to show the relation which a course of study in history should bear to the social occupations of the school. The course treats of the following topics: primitive industrial and social life; local history; civics; constructive work; children's literature. Students who are teaching in primary grades may modify their work to make it of practical assistance in their own schools. Mj. ASSOCIATE PROFESSOR RICE.

3. Teachers' Course in American History (11).—This course is intended for teachers in the upper grades of the elementary schools. It gives a brief study of colonial history and a fuller treatment of the period of westward expansion. The effects of geographical environment upon industrial and social life are emphasized. Mj. ASSOCIATE PROFESSOR RICE.

HOME ECONOMICS

4. Costume Design (133).—This course is planned for upper-grade and high-school work and gives a good working knowledge of the fine qualities in raiment which express in best terms the superior mental and physical character of individuals. It establishes standards for judging and presenting the principles underlying drawing, structural design, and color in their direct and corrective application to costume. It discusses the place and contribution of the subject to the individual, the problem of fashion, and historic types, using these as contributive material to originality of conception. The technical work includes sufficient practice in drawing for the expression of ideas and to help graphic memory. Mj. MISS WHITTIER AND MISS CLARK.

5. Household Design (140).—This course presents the subject by means of theory and practice simplified to meet the problem of the average citizen of average income and undertakes to stimulate and develop superaverage aesthetic comprehension and power. It presents the principles underlying the use of color and of structural and decorative design, and calls for sufficient illustration to insure a clear understanding of the basis for judgment. It discusses practical and aesthetic values regarding the home, exterior and interior, and, in a general way, civic environment and historic types. Teachers interested in upper-grade and high-school drawing should consider the possibilities for broader interpretation and application to life-needs in the subject of Household Design. The technical work includes sufficient practice in drawing and construction to enable the student to record ideas. Mj. MISS WHITTIER AND MISS CLARK.

LATIN

The Latin Subjunctive.—(Cf. description under Latin 11.) Mj. MISS PELLET.

Training Course for Teachers of Latin.—(Cf. description under Latin 24.) Mj. PROFESSOR MILLER.

GERMAN

The Teaching of German in Secondary Schools.—(Cf. description under German 18.) Mj. ASSISTANT PROFESSOR GRONOW.

ENGLISH

English Grammar for Teachers.—(Cf. description under English 39.) Mj. ASSOCIATE PROFESSOR MARSH.

6. The Teaching of Reading in Intermediate and Grammar Grades (16).—A survey of the leading problems of teaching and supervising reading in grades 4 to 8 inclusive. Examination of standard literature upon the subject. The following are important topics considered: (1) choice of materials; (2) aims and purposes; (3) psychological problems; (4) relation between silent and oral reading; (5) tests and measurements; (6) home reading; (7) dramatization; (8) memorization; (9) correlation with other subjects. Mj. MISS McLAUGHLIN.

7. English in the Junior High School.—This course endeavors to give a comprehensive view of problems associated with the conduct of English in the junior high school. Special consideration of the curriculum suitable for grades 7, 8, and 9. Various topics are: (1) organization of English in leading schools; (2) reforms in teaching grammar; (3) minimum essentials securing co-ordination; (4) content reading; (5) graded classes; (6) special classes; (7) vocational guidance through English; (8) socialization of English classes. Mj. ASSOCIATE PROFESSOR LYMAN.

8. The Teaching of English Composition in Secondary Schools (7).—Deals with the general problems of composition in the high school. Among the topics considered are the following: aims, organization, criticism of themes, standardization, assignments, etc. The student is put in touch with the best

books on teaching English, and is enabled to use his own classroom as a laboratory for the exercises and experiments required. The course is designed to co-ordinate closely with the daily duties of a student engaged in teaching. Prerequisite: 2 Majors in composition or the equivalent. Mj. ASSOCIATE PROFESSOR LYMAN.

9. The Teaching of English Literature in Secondary Schools (80).—A survey course considering such topics as the reform movement, the modern point of view, the organization of the course of study, the basis of method, the teacher's preparation, etc. Adapted, as is course 8, to the activities of the student's own classroom. May be elected by students not teaching if they have the opportunity to observe good teaching in neighboring high schools. Prerequisite: 2 Majors in literature or the equivalent. Mj. ASSOCIATE PROFESSOR LYMAN.

10. The Teaching of Oral English in Secondary Schools (12).—This course considers such topics as oral contests, literary societies, reading clubs, dramatization, debating, etc. It treats of various phases of oral English, both as this supplements the regular classes in composition and in literature and as it is involved in classes devoted entirely to oral work. It also includes extensive consideration of good practices in reading and speaking and a moderate amount of attention to the student's own habits of oral address. Prerequisite: 4 Majors in composition and literature or the equivalent. Mj. ASSOCIATE PROFESSOR LYMAN.

SCHOOL-LIBRARY ECONOMICS

11. Literature for Children (31).—This course is designed for teachers, librarians, parents, social workers, and writers for children. It aims (1) to give a survey of the field of literature for children; (2) to get at the principles underlying the selection of such literature; (3) to deal concretely and practically with certain problems of selection. It attempts to organize and to give new meaning to the mass of literature already read by the student as well as to direct his study along new lines. The course deals with the following topics: (1) the young child and the book; (2) the adolescent and the book; (3) institutional factors, as relation between school and library, Sunday school, the home; (4) the psychology and the hygiene of reading; (5) tested and graded lists of books through the twelve grades of school; (6) historical survey of books for children in America; (7) influence of England, France, and Germany on literature for children; (8) qualities and form, as simplicity of plot, rapidity of style, narration drama, etc.; (9) selected classics, as literature for children: *Iliad*, *Odyssey*, *Nibelungenlied*, *Morte D'Arthur*, *Aesop's Fables*, *Arabian Nights*, *Shakspere's Plays*, *Robinson Crusoe*, *Pilgrim's Progress*, *Gulliver's Travels*, *Alice in Wonderland*; (10) *Mother Goose*, the fairy tale, the ballad; (11) poetry for the young—principles of selection; (12) oral interpretation and reading of literature; (13) the Bible; (14) notable fiction; (15) scientific books—the book as a tool; (16) dramatic instinct—Shakspere for the young; (17) illustrated books for children. The books used in the course are to be found in ordinary public libraries; the pamphlets and lists can be procured at small cost. A few reproduced pages from old and rare children's books will be furnished. For those interested in building up a children's library both the most expensive and also the cheaper editions will be indicated. Mj. MISS BLACK.

MATHEMATICS

12. The Teaching of Elementary-School Mathematics (1).—This course is based on a good knowledge of the subject-matter of arithmetic, algebra, and geometry. It includes a critical study of (1) the content, (2) the organization, and (3) the methods of presenting mathematics to grade pupils. The curriculum is critically studied from grade to grade, with a view to determining the best type of work for the modern elementary public school. Some attention is given also to testing the results of arithmetic teaching. Mj. PROFESSOR MYERS.

13. The Supervision of Arithmetic (3).—This course deals with both the theory and the practice of supervision of the teaching of mathematics in elementary and junior high schools. Sample topics of study are (1) the grade

distribution of arithmetical topics; (2) time allotment; (3) dominance of methods in the teaching; (4) sequence in teaching the tables; (5) oral work; (6) drill work; (7) grade for introducing text; (8) judging texts; (9) testing results of teaching; (10) algebra and geometry in the grades; (11) socializing arithmetic. Reports on class work conducted by the student or by others are required. The course is designed for general supervisors, normal-school supervisors, principals, and superintendents, actual or prospective. Mj. PROFESSOR MYERS.

14. Psychology of Number.—The work of this course requires a good knowledge of the subject of arithmetic and some power of abstract thought. Questions having to do with the psychological genesis and growth of the number concept are examined. The psychologic grounds for and against the ideas which have dominated pedagogic method in the elementary mathematics are critically examined. The variable unit conception of number is studied with special care. The purpose of the course is to make teachers of elementary mathematics clearly conscious of the function of this subject in elementary education, thereby rendering this practice immune from contagion of shallow mechanical devices as methods of training the number faculty of children. Mj. PROFESSOR MYERS.

15. Teachers' Course in Unified Mathematics.—A treatment of the essentials of mathematics usually taught in the first two years of the high school extended to include a full four-year high-school program in mathematics. The subjects, algebra and geometry, are related to each other and to other topics not usually treated in the first two years. Thus trigonometry is introduced in the second year leading to the solution of the right triangle and simple trigonometric equations. The course serves as a review from the point of view of the teacher, it suggests methods of presenting the subject-matter to high-school classes, and brings the teacher into close touch with modern ideas and methods. It presents the work under the aspect of unified mathematics.

A. Comprises the work of the first high-school year in general or unified mathematics. Central emphasis is here upon algebra, with related arithmetic and geometry. The subject-matter considered is equivalent to that for a knowledge of which the first unit of entrance credit is given. Mj.

B. Reorganizes the work of the second high-school year into the form of general or unified mathematics. Central emphasis is here upon geometry. Considerable algebra and trigonometry are associated with the central theme. The subject-matter considered is equivalent to that for a knowledge of which the second unit of entrance credit is given. Mj.

C. Carries forward the plan in A and B and covers the work of the third and fourth years. It continues and completes a four-year high-school course in general, or unified, mathematics. Mj.

PROFESSOR MYERS.

16. The Teaching of Secondary Mathematics.—This course covers the general theory of the teaching of the conventional secondary branches. Subject-matter is treated only in so far as needed to exhibit method, organization, and modern tendencies.

A. *Algebra* (E. Math. 2).—Deals with the aims, values, matter, methods, and results of algebra teaching. It considers present tendencies, principles of correlation, criteria for selecting subject-matter and textbooks; also with supervised study, standards of attainment, the recognition of individual differences, with study helps for pupils, etc. It gives some attention to the problem of judging teaching. Mj.

B. *Geometry* (E. Math. 2).—Treats the educational aims and values of geometry teaching, the problems of choosing matter and methods, and deals with the original exercise as an agency for developing both reproductive and productive ability. Attention is also given to the questions of teaching how to study and how to employ applied problems in geometry. Mj.

PROFESSOR MYERS.

17. The Teaching of College Algebra, Trigonometry, and Analytics.—A good academic knowledge of these subjects is required for admission to this

course. The following topical enumeration will suggest the nature of the questions considered: (1) the purpose of college algebra, trigonometry, and analytics in the curriculum of the college: (a) viewed from the teacher's standpoint, (b) viewed from the student's standpoint; (2) method of teaching these subjects as determined by this purpose; (3) the correlation idea as applied to Freshman college mathematics; (4) the laboratory method in Freshman college mathematics; (5) use of graphical work early and all along; (6) applications of these subjects in teaching them; (7) dangers of this teaching becoming too abstract; (8) order and sequence of special topics. Any recent text in each of these subjects will answer. **Mj. PROFESSOR MYERS.**

18. History of Mathematics (5).—This course is intended to put the student in possession of a knowledge of the most fruitful epochs and of the most salient influences of mathematical history; to make him more keenly appreciative of the fact that his science is and always has been a growing science, to inform him that the attitude of mind exhibited by the works of the great mathematicians is most conducive to progress today—in short, to assist the mathematical student to identify himself more intelligently with those men and movements which are making for mathematical advance at the present time. **Mj. PROFESSOR MYERS.**

19. Teachers' Course in the History of Mathematics.—This course is designed specifically for teachers in elementary and high schools. It views history primarily as a source of method and teaching technique. It emphasizes the bearings of historical development upon matter and methods of teaching and upon types of organization, and points out profitable aims and values for mathematical study. The general history is surveyed rapidly down to modern times, which may be taken as the date of the introduction of printing (1450 A.D.). Then is given in turn a synoptic history of arithmetic, of elementary algebra, and of elementary geometry. The attempt is to give an appreciation of the factors and agencies that have significantly affected the evolution of mathematics as an educational instrument. Some consideration is given to ways of employing historical knowledge in teaching. **Mj. PROFESSOR MYERS.**

GEOGRAPHY

20. Geography for the Primary Grades (1).—The purpose of this course is to discuss the place and subject-matter of geography for little children. It will cover materials to be used, field work to be done, correlations that are essential, and methods that deal specifically with this subject. **Mj. MISS WYGANT.**

NATURAL SCIENCE

21. Elementary Science: Plant and Animal Life.¹—In practically all the recent surveys the reports emphatically recommend the introduction of more extensive and better organized work in science; especially is there increasing demand for the adequate presentation of the practical phases of elementary science in the grades. Science teaching to be effective must begin with a first-hand knowledge of out-of-door things. The teacher accustomed to use books as her chief means of instruction is at a loss to know how to proceed in this new type of work. This course aims to give her detailed directions as to materials and methods to be used, and to impart the proper attitude of mind so essential to successful work in science in the grades. Detailed instructions are given for the study of common trees, flowering plants, seeds and seedlings, some spore-bearers; the familiar birds, insects, animals of pond and stream and some of the animal companions of man. These studies are outlined so that the directions given will serve for grade pupils, with a minimum of alteration. Readings are assigned covering a discussion of aims and methods, of the simple life-processes of animals and plants, their habits, structures, and the relations of common living things to man. **Mj. ASSOCIATE PROFESSOR DOWNING.**

¹ Registrations will be accepted after October 1, 1918.

DRAWING AND PAINTING

22. Elementary Drawing and Painting (6).—All teachers would like to be able to draw. Most teachers in the elementary schools are expected to teach drawing. This course aims to present the subject of drawing and painting in such a way that at its completion the student will understand how to teach drawing to children and will also have some dexterity in the art. The degree of skill attained in both will depend somewhat upon natural ability and previous training, but neither is demanded by this course. The work is arranged under the following heads: (1) illustrative sketching and drawing; (2) object-drawing; (3) nature-drawing; (4) figure-drawing; (5) animal-drawing; (6) picture-study and outdoor sketching. The course discusses the place of drawing in the elementary schools, its relation to other subjects, suitable problems for the various grades, and methods of presentation. **Mj. MISS WHITTIER.**

23. Elementary Design (20).—All teachers want to know "How" and "When" to present a subject. All students desire to know "Why" a subject is presented. This course aims to answer the "How," "When," and "Why" of teaching design in the elementary schools. It is planned to meet the needs of kindergartners, grade teachers, art teachers, and all who wish a good working foundation in design. It discusses suitable problems and presents methods of teaching design to children in the elementary schools. It is not primarily a technical course, and previous knowledge of the subject is not essential. The work is presented in the following five groups: (1) printing; (2) units of design; (3) borders and surfaces; (4) color; (5) structure. The number of lessons in each group will vary according to the student's expressed needs; that is, the emphasis may be upon methods of teaching, technique, or the history of design. **Mj. MISS WHITTIER.**

24. Illustration (7).—A course planned for kindergartners and primary teachers. It includes a study of the following topics: (1) illustrations in children's books; (2) illustrations for familiar stories; (3) pictorial composition; (4) blackboard sketching. The technical work gives sufficient practice in drawing to enable the student to make simple illustrations. **Mj. MISS WHITTIER AND MISS CLARK.**

25. Structural Design.—A course planned to meet the needs of all interested in the following subjects: cardboard and paper construction; wood work; metal work; clay work; textiles. The emphasis is upon the structural side, but a minimum amount of decorative design is discussed. Prerequisite: course 23 or its equivalent. **Mj. MISS WHITTIER AND MISS CLARK.**

An introductory course, **Freehand Drawing**, and three series of courses, **A. Mechanical Drawing**, **B. Architectural Drawing**, **C. Descriptive Geometry**, afford opportunity to begin the study of drawing and to continue it to a point where knowledge of higher mathematics—e.g., calculus, mechanics, etc.—conditions further progress. "Freehand Drawing" with any one of the series offers what is usually done in the first two years in the best technological schools. While open to anyone they will appeal especially to those who wish thorough training in the fundamentals of the science, whether for immediate practical purposes in the office, shop, or classroom, or as a preparation for Mechanical, Electrical, and Civil Engineering, or for Architectural Drawing.

One may take any Major in any one of the three series for which he is prepared, though in most cases it will be found advisable, if not necessary, to begin with the first Major. Admission to any Major except the first one of a series is conditioned upon the approval of the instructor, who will base his decision upon a statement and exhibit of previous work. The University reserves the right to retain one drawing from the student's set in each Major and to determine whether admission or college credit shall be allowed.

The materials required in any Major will be sent, express collect, upon receipt of the amount specified, which is the lowest that can be quoted for a good quality. The weight of the case and the price of the textbook will enable the student to determine the exact cost of each Major.

Material required in "Freehand Drawing."—Six sheets of Whatman's cold-pressed paper, 22×30 inches; 8 sheets of chalk-talk paper, 14×20 inches; 3 Koh-i-noor pencils, 3H; 1 pencil-eraser, No. 211; 1 dozen thumb tacks, steel-stamped, $\frac{3}{8}$ inch diameter; 1 box of French charcoal; 1 bottle of fixatif, two-ounce; 1 tin atomizer; 1 box "Star" chalks, six assorted colors; 1 drawing-board, 18×24 inches; and models of different solids.

Material required in courses A1, 2, 3, 4, 5; B2, 3, 4, 5; and C1, 2, 3, 4.—One drawing-board, 18×24 inches; 1 set drawing instruments in folding pocketbook style case, No. 422; 1 T-square, mahogany, ebony-lined fixed head, 24 inches; 1 amber triangle, 45°, 8 inches; 1 amber triangle, 30°×60°, 10 inches; 1 triangular boxwood rule, architect's, 12 inches; 1 flat boxwood scale, 6 inches, divided $\frac{1}{16}$ and $\frac{1}{32}$; 1 French amber curve, No. 1; 1 dozen sheets of Whatman's hot-pressed paper, 22×30 inches; 6 Koh-i-noor pencils, assorted, 3H and 6H; 1 bottle each of Higgins' carmine, black, and blue ink; 1 dozen thumb tacks, steel-stamped, $\frac{3}{8}$ inch diameter; 1 Faber's pencil-eraser, No. 211; 1 Faber's ink-eraser, No. 2604; 1 Hardtmuth's soft pliable rubber, No. 12; 1 file, 4 inches; 1 penholder; 3 ball-pointed pens.

26. Freehand Drawing.—A course preparatory to each of the series described below except the second, in which it is required. It gives that thorough training of the eye and hand which is so necessary in all work requiring accuracy in observation and measurement. While this is primarily its purpose, the course offers the work required in most of the public schools of the country preparatory to teaching Freehand Drawing. Although it does not deal with the pedagogy of the subject it provides a practical and pedagogically correct working basis in this subject, and can be recommended, therefore, to all grade teachers and to others who are expected to teach Freehand Drawing in connection with their special work. The course embraces the following divisions: (a) *Freehand Projection*—to familiarize the student with the various views of an object and their proper arrangement upon the sheet, by which all the facts of size, form, and proportion are shown, together with perspective sketches of the object, 6 drawings; (b) *Model Drawing of Type-Forms*—outline sketching, in perspective, of the cube, cylinder, and other geometrical solids, introducing the principle of perspective as applied to small objects, 6 drawings; (c) *Model Drawing, Groups*—outline drawings of solids and other objects to teach composition and perspective, 6 drawings; (d) *Light and Shade*—pencil studies of the type solids and original groups of objects, to give practice in obtaining quick effects in black and white, 6 drawings; (e) *Color Work*—color studies with chalks, to teach an appreciation of surface, texture, and the proper juxtaposition of colors as applied to groups of objects, 6 drawings; (f) *Pen-and-Ink Studies* of single objects and original groups, involving outline, light and shade, texture, surface, etc., 6 drawings; in all, 36 drawings. No textbook is required. Cost of materials ready for shipment, \$3.00; weight of package, 18 pounds. Mj. MR. FERSON.

27. A—Mechanical Drawing.—

1. *Projective Geometry.*—(a) Preparatory work: this includes the use of instruments, laying out, penciling, inking-in, lettering, with practice work to learn accuracy of measurement and of line, 3 drawings. (b) Graphic geometry: this is intended to give the student a mastery of the various geometrical constructions which form the basis of all work in projection, descriptive geometry, and constructive drawing, whether mechanical or architectural, and at the same time to give facility in the use of the instruments, 6 drawings. (c) Projection: this will include the projection of points, lines, planes, and solids 6 drawings; in all, 15 drawings. Textbook: Linus Faunce's *Mechanical Drawing*, \$1.45 net. Cost of materials ready for shipment, \$17.00; weight of package, 18 pounds. Mj. MR. FERSON.

2. *Constructive Drawing.*—(a) Intersections, including conic sections, oblique sections, intersections, and developments, 6 drawings. (b) Shadows: the first angle projection of shadows, 3 drawings. (c) Isometric projections with projections of shadow, 3 drawings. (d) Oblique or cabinet projection, 3 drawings; in

all, 15 drawings. Textbook and equipment for this course same as for A1. Prerequisite: course A1. Mj. MR. FERSON.

3. *Machine Details*.—This course is intended to familiarize the student with the various parts of machines that have come to be recognized as standards and which are used in the construction of new machines. Standard sections for materials, fastenings, couplings, bearings, engine details, etc., 10 drawings. Textbook: Low and Bevis' *Manual of Machine Drawing and Design*, \$2.50 net. The equipment for A1 will suffice for this course also. Prerequisite: course A2. Mj. MR. FERSON.

4. *Gear Construction*.—Spur-gears, bevel, spiral, worm, elliptic, involute and cycloid teeth, hubs, arms, rims, etc., 10 drawings. Textbook: George B. Grant's *Teeth of Gears*, \$1.10 net; equipment, same as for A1. Prerequisite: course A3. Mj. MR. FERSON.

5. *Shop Drawing*.—(a) Machines from freehand sketches and measurement details and an assembled drawing of some piece of machinery; (b) tracing and blueprinting. Five drawings with their tracings and blueprints will be accepted for this course; in all, 15 sheets. No textbook is required; equipment, same as for A1. Prerequisite: course A4. Mj. MR. FERSON.

28. **B—Architectural Drawing**.—This series gives the student a good working knowledge of the essentials in architecture; history, the orders, the principles of the designing of dwelling-houses, office work in rendering, perspective, and detailing, together with tracing and blueprinting. As the success of the student in architecture is so completely dependent upon his knowledge of, and practice in, all the departments of freehand drawing and sketching, it is absolutely essential that the introductory Major, "Freehand Drawing," should be taken first, so it is made the first Major of the series.

1. *Freehand Drawing*.—Mj. MR. FERSON.

2. *Projective Geometry*.—Same as A1. Mj. MR. FERSON.

3. *Constructive Drawing*.—Same as A2. Mj. MR. FERSON.

4. *Architectural Details*.—(a) "The Orders," 10 drawings; (b) details of architectural construction from measurements, 2 drawings; in all, 12 drawings. Textbooks: Hamlin's *Architectural History*, \$1.75 net, and Ware's *American Vignola*, Part I, "The Orders," \$2.50 net. Equipment for this course same as for A1. Prerequisite: course B3. Mj. MR. FERSON.

5. *Architectural Design*.—(a) Domestic plans, from copy, 6 drawings; (b) design of some small building, 5 drawings; (c) tracings and blueprints, 5 tracings with their prints; in all, 16 drawings. No textbook is required. Equipment, same as for A1. Prerequisite: course B4. Mj. MR. FERSON.

29. **C—Descriptive Geometry**.—This series is for those who wish to go into the higher mathematics, but have had no training in the graphic side of the subject. It consists of:

1. *Projective Geometry*.—Same as A1. Mj. MR. FERSON.

2. *Constructive Drawing*.—Same as A2. Mj. MR. FERSON.

3. *Theoretical Graphics*.—Problems in points, lines, planes, and straight-surfaced solids; 15 drawings. Textbook: Church's *Descriptive Geometry*, \$2.50 net; equipment, same as for A1. Mj. MR. FERSON.

4. *Practical Graphics*.—Curved and warped surfaces, shades and shadows, developments; 15 drawings. Textbook: same as for C3; equipment, same as for A1. Mj. MR. FERSON.

COMPARATIVE RELIGION

1. **Introduction to the History of Religion**.—This course is elementary in character and aims to conduct the student into the study of the general principles of religion and to outline the history of the various religions of the world. Mj. ASSISTANT PROFESSOR CONARD.

2. The Religion of Uncivilized Peoples.—This course surveys primitive religious customs and beliefs, noting their survivals in higher religions. The first part of the course consists of a general study of the religion of uncivilized peoples. In the second part a special study is made of the religion of the North American Indians or of some other uncivilized people, concerning whom material is available to the student. Mj. ASSISTANT PROFESSOR CONARD.

3. The History of Prayer.—A study of the evolution of prayer including a discussion of the objects sought in prayer, the underlying conceptions of deity, the effect of prayer, and the relation of prayer to law and to social and ethical ideals. The survey includes the crudest forms of prayer as well as the prayer habits and ideals of present-day Christianity. Prerequisite: course 1 or 2 or an equivalent. Mj. ASSISTANT PROFESSOR CONARD.

The Religions of India.—(Cf. description under Comparative Philology 5.) Mj. ASSISTANT PROFESSOR CLARK.

OLD TESTAMENT LITERATURE AND INTERPRETATION AND ORIENTAL LANGUAGES AND LITERATURES

1. An Introduction to the Old Testament.—This course aims to give one a general view of the books of the Old Testament. It describes briefly (1) how the ancient records have come down to us; (2) how those documents were compiled and edited; (3) the historical background of the Old Testament books; (4) the literary character of each book; (5) its main teachings; and (6) workable methods of solving its problems. The work is planned on a practical basis, and aims to give students a reasonably complete idea of the new and real advances that have been made in the last few decades in the understanding of the Old Testament. Mj. PROFESSOR PRICE.

2. Outline of Hebrew History.—This course condenses the treatment of Old Testament *history* given in courses 80, 81, and 82 in residence. It provides a survey of the history of the Hebrew people as presented in the Old Testament from the period of the conquest and establishment in Canaan to the Maccabean struggle and the close of Old Testament history. The course embraces a preliminary sketch of the patriarchal period, with a more detailed study of the conquest, the period of the Judges, the united and divided kingdoms, the exile, the revival of Judah, and the beginnings of Judaism. The bearings of prophetic activity upon the history and literature also receive consideration. Mj. MR. HENRY.

3. Historical Development of Old Testament Literature.—This course condenses the treatment accorded Old Testament *literature* in courses 80, 81, and 82 in residence. It begins with a very brief survey of the origins of the Hebrew people and their literary heritage from the past, then takes up the existing Old Testament literature in the order of its production and studies each portion as to (1) the historical circumstances of its origin, (2) its authorship, (3) its literary form, and (4) its purpose. The course aims to make the student conversant with the constructive results of the most recent historical research. Although this course has no technical prerequisites, a knowledge of Hebrew history as outlined in course 2 would be helpful. Mj. MR. HENRY.

4. Old Testament Prophecy.—The purpose of this course is to aid in securing a better understanding of the rise and development of prophecy in Israel. Some of the more important matters to be considered are (1) the controlling ideas in the teaching of each of the great prophets; (2) the relation of the prophet and his work to the political and social movements of his day; (3) the attitude of the prophet toward the priest and priestly institutions; (4) the place of prophecy in the preparation for the work of Christ. Mj. MR. HENRY.

5. Old Testament Worship.—A study of the element of worship and the institutions and literature connected with worship in the Old Testament. Special

-consideration will be given to such topics as (1) the priest; (2) place of worship; (3) sacrifice; (4) feasts; (5) tithes; (6) clean and unclean, etc.; (7) the origin and character of the Sabbath; (8) the date and character of Deuteronomy; (9) the origin of the Levitical legislation; (10) the composition of the Hexateuch. Attention will be given to the characteristic ideas of the priest as distinguished from those of the prophet and to the growth of priestly influence in Israel's religious life. Mj. MR. HENRY.

6. Elementary Hebrew (1).—Includes the mastery of the Hebrew of Genesis, chaps. 1-3; the study of the most important principles of the language in connection with these chapters; Hebrew grammar, including the strong verb and seven classes of weak verbs; and the acquisition of a vocabulary of four hundred words. Mj. MR. HENRY.

7. Intermediate Hebrew (2).—Includes the critical study of Genesis, chaps. 4-8, with a review of Genesis, chaps. 1-3; the more rapid reading of fourteen chapters in I Samuel, Ruth, and Jonah; the completion of the outlines of Hebrew grammar and an increase of vocabulary to eight hundred words. Mj. MR. HENRY.

8. Exodus and Hebrew Grammar (4).—Includes the critical study and translation of Exodus, chaps. 1-24; a more detailed study of Hebrew grammar; an inductive study of Hebrew syntax; and the memorizing of three hundred additional words and of several familiar psalms in Hebrew. Mj. MR. HENRY.

9. Haggai, Zechariah, and Malachi (29, second half).—A course of twenty recitations, including the critical and exegetical study of these books; the lexicographical study of two hundred important words; the principles of Hebrew prophecy; a study of Hebrew syntax, especially the subjects of the tense and sentence; the Hebrew accentuation; and the memorizing of about eight hundred words. M. MR. HENRY.

10. Elementary Arabic.—

A. Lessons based on Thatcher's *Arabic Grammar* (in French by Armez, in German by Harder) and inductive study of a simplified form of the "Tale of King Shahryar and His Brother" (the opening tale of the *Arabian Nights*) will present to the student the alphabet, the elements of orthography, the inflection of pronouns, nouns, and adjectives, common prepositions and adverbs, the strong verb, and the fundamentals of syntax. Mj.

B. Continues A, the "Tale of the Ox and the Ass" (the second tale of the *Arabian Nights*) and easy fables and anecdotes. The weak verb, numerals, adverbs, and particles are studied, and the elements of syntax are presented with the exercises. Mj.

C. The student has the choice of six selections for more rapid reading from (1) Ibn Khallikān's *Biographical Dictionary*; (2) Ath-Tha 'labī's *Stories of the Prophets*; (3) the prose sections, chiefly biographical of the *Kitāb al-Aghānī*; (4) historical works of Ibn Athīr, Abulfeda, Ibn Qutaiba, at-Tiqtaqa, at-Tabarī, etc.; (5) modern tales, novels, etc.; (6) the Bible in Arabic. These selections will be read from *Chrestomathies* or handbooks, which may be procured by the student. The grammar by Wright (3d ed.) and a hand lexicon, in the order of preference either Hava's (Arabic-English), or Belot's (Arabic-French), or Steingass' (Arabic-English), or Wortabet's (Arabic-English), or Wahrmond's (Arabic-German), should be in the hands of the student. Readings from Nicholson's *Literary History of the Arabs*, or Huart's *Arabic Literature*, or both, will be assigned in connection with the texts studied. MacDonald's *Muslim Theology, Jurisprudence, and Constitutional Theory* should be read in its entirety in connection with this course, as it will lay the foundation for the understanding of technical terminology of various kinds and historical and other references. Mj.

ASSISTANT PROFESSOR SPRENGLING.

11. Advanced Arabic.—Instruction will be adapted to (1) the practical needs of consular and other government officials, mercantile and professional pursuits, or missionary labors, or (2) those having philological, literary, scientific, historical, or artistic work in view. The student must consult the instructor before registering. Mj. ASSISTANT PROFESSOR SPRENGLING.

12. Literature and History of the Arabs.—Courses for students not conversant with the Arabic language are in preparation. Inquiries concerning work of this nature may be addressed to the instructor. ASSISTANT PROFESSOR SPRENGLING.

13. Elementary Assyrian (170, first half).—The cuneiform text as well as the transliteration is used from the beginning. The student learns the most common cuneiform signs, the strong verb and all classes of weak verbs, and the fundamental principles of the language. A knowledge of Hebrew is prerequisite. M. PROFESSOR BERRY.

14. Intermediate Assyrian (170, second half).—This includes the reading of several hundred lines of historical cuneiform text, with special attention to vocabulary, a further study of Assyrian grammar, including syntax, and the learning of most of the remaining cuneiform signs that are in frequent use. M. PROFESSOR BERRY.

15. Elementary Egyptian (250).—A beginning course based on a study of (1) the autobiography of the nobleman Ameni, and (2) the tale of the Shipwrecked Sailor (as transliterated from the hieratic). The commonest signs will be mastered, along with the grammatical usages of the classic period. Mj. DR. ALLEN.

16. Advanced Egyptian (252).—The historical inscriptions of the Eighteenth Dynasty will be studied, using Sethe's *Urkunden*. Mj. PROFESSOR BREASTED.

17. Elementary Russian.—

A (301). After a general study of the declensions and conjugations, texts supplied with extensive notes will be taken up and mastered. Mj.

B. (302). Continues the study of texts with review of inflectional forms. The vocabulary will be enlarged by the study of roots and suffixes; elementary composition; extensive syntax study. Mj.

ASSISTANT PROFESSOR HARPER.

Members of these Departments will endeavor to arrange informal courses for students who are prepared to do work of an advanced nature, whenever practicable.

NOTE.—Related courses are offered in History, Comparative Religion, and General Literature.

NEW TESTAMENT AND EARLY CHRISTIAN LITERATURE

1. Beginnings of Christianity (1).—A sketch of political, economic, cultural, and religious conditions among both Jews and Gentiles from the Maccabean revolt (167 B.C.) to about 180 A.D., including Jewish political history and the conditions of life in Palestine and during the Dispersion. Especial emphasis will be placed upon the rise and early development of the Christian movement, treating such topics as the work of John the Baptist and of Jesus, the history of Christianity in Palestine, the career of Paul, growth of Christianity during post-apostolic times, Gnosticism, and the early apologists. A prescribed course. (Identical with Church History 1.) Mj. PROFESSOR CASE.

2. Jewish History in the Time of Jesus (3).—The Jewish people in the Roman Empire; geography, population, and languages of Palestine; influence of Hellenism; political events and parties; industrial, social, and intellectual life; religious groups and institutions; moral and religious ideas—an introduction to the study of the life and teaching of Jesus. Mj. PROFESSOR VOTAW.

3. Life of Jesus (106 or 5).—A historical study of Jesus' purpose, method, message, deeds, and personality. The forty lessons include such topics as the characteristics of the gospels as historical sources, Jewish messianism, Jesus' aim and method in his ministry, the parables, the miracles, the Christology of the gospels, and the historical significance of Jesus. The course is presented in two grades: in its simple form it corresponds in general to the college course New Testament 106; in its advanced form to the graduate course New Testament 5. Mj. PROFESSOR VOTAW.

4. The Teaching of Jesus (71).—An investigation of the four gospels as to their origin, characteristics, trustworthiness, and the manner of their use for ascertaining the teaching of Jesus. Chief ideas and characteristics of Judaism in Jesus' day studied as the historical background to his teaching; also the development of Jesus' own religious experience and ideas, and the aim, limits, style, and method of his teaching. Topical, comprehensive study of the content of Jesus' teaching. Mj. PROFESSOR VOTAW.

5. Introduction to the Books of the New Testament.—

A. *Life of the Apostle Paul and Introduction to the Pauline Epistles* (2).—The work in this course is done on the basis of a handbook containing suggestions for detailed studies and outlines of the various New Testament books. The aim in this first part is to prepare the student for the interpretation of the letters of Paul and for an understanding of his personality and theology. Mj.

B. *Introduction to the Gospels, Acts, and General Epistles* (2).—Includes the study of the occasion and purpose of each book and its general content and structure. Mj.

PROFESSOR BURTON AND ASSISTANT PROFESSOR SEVERN.

6. The Ethical Teaching of the New Testament (91).—The moral ideal of Jesus is to be studied on the basis of the Sermon on the Mount, supplemented by material from other portions of the gospels. The specific principles set forth by Jesus, and the application which he made of them to his own life and to the conduct of others, will be interpreted. Similarly, the moral ideal of Paul, with its principles and applications, will be considered. Mj. PROFESSOR VOTAW.

7. Elementary New Testament Greek.—A course for beginners, presupposing no knowledge of Greek. It aims to secure, by an inductive study, the absolute mastery of chaps. 1-4 of the Gospel of John and the essential facts and principles of the language. Emphasis is placed upon the writing of exercises in Greek. Mj. ASSISTANT PROFESSOR SEVERN.

8. Intermediate New Testament Greek.—This course is designed for those who have completed course 7 and for those who wish to review their Greek in connection with the New Testament. It comprises the thorough study of the entire Gospel of John and the reading at sight of the First Epistle of John; also the acquisition of vocabulary and the most general principles of grammar. One who has diligently worked through this course should be able, with the aid of the lexicon, to read the New Testament with comparative ease. Mj. ASSISTANT PROFESSOR SEVERN.

9. The Greek of the New Testament (41).—Using the Gospel of Mark, a thorough study is made of the syntax of New Testament Greek. Prerequisite: courses 7 and 8 or equivalent instruction in classical Greek. Mj. PROFESSOR VOTAW.

10. The Apostolic Fathers (39).—The course includes a study of (1) the early Christian literature, ca. 95-150 A.D.; (2) problems of date, authorship, and purpose; (3) reading of the Greek; and (4) studies in theology and polity. Outlines of the literature will be provided, and reports covering the topics given above will be required. The later development of New Testament ideas and practices, as reflected in this early Christian literature, will be especially emphasized. Mj. PROFESSOR GOODSPEED AND ASSISTANT PROFESSOR SEVERN.

BIBLICAL LITERATURE IN ENGLISH

11. The Religion of Jesus (111).—Through a comparative study of the four Gospels (in English) the student is led to appreciate the attractiveness and creative power of Jesus' personality; to work out for himself the actual content of Jesus' profound convictions; and to systematize Jesus' thought for practical use. This course commands college credit only. Mj. ASSISTANT PROFESSOR MERRIFIELD.

SYSTEMATIC THEOLOGY

1. Outline Course in Systematic Theology.—The course is intended to give a general acquaintance with the field of systematic theology, with especial reference to the problems which are today attracting chief attention. The first half of the course is devoted to a general introduction to the subject; the second half to the content of systematic theology. The textbooks prescribed are to be carefully analyzed and criticized on the basis of questions and topics furnished by the instructor. This study is of real value as a general survey, but does not command credit for the D.B. degree. **Mj. PROFESSOR SMITH.**

2. Systematic Theology.—

A (1). *Introduction*, discussing the task and method of systematic theology in the light of modern conditions and setting forth the Christian doctrine of God. **Mj.**

B (2). The Christian doctrines of sin, salvation, and the person and work of Christ. **Mj.**

C (3). The Christian Life. The religious and ethical implications of the Christian experience, including the doctrines of sanctification, eschatology, and Christian ethics. **Mj.**

PROFESSOR SMITH.

3. Christian Ethics (8).—This course sets forth the moral aspects of the Christian religious experience. The Christian moral ideal is compared with the various ethical ideals expounded by moral philosophers. The ethical ideal of Jesus is carefully studied with suggestions as to the method of determining duty in the various fields of human activity. An analysis of the important social problems of today serves to call attention to the field of constructive Christian activity. **Mj. PROFESSOR SMITH.**

4. Apologetics (9).—This course is intended to acquaint the student with the general outlines of a defense of Christianity. In the first place the content of Christianity which must be defended is sought on the basis of a historical study of the sources and history of Christianity. The ultimate elements of Christian faith are then defined and justified in the light of modern thought. Questions and topics suggested by the required textbooks are to be discussed in written papers by the student. Prerequisite: course 2 or an equivalent. **Mj. PROFESSOR SMITH.**

5. The Theological Significance of Leading Movements of Thought in the Nineteenth Century.—Modern idealistic philosophy, the theological principles of Schleiermacher and of Ritschl, the development of biblical criticism, the growing influence of natural science, the rise of the philosophy of evolution, and the significance of the Pragmatist movement are the chief topics for study. The problems raised for theology by these movements will be carefully considered. Those taking the course should have access to an adequate library or should be willing to incur considerable expense for books. Prerequisite: course 4 or its equivalent and a general acquaintance with the history of modern philosophy. (Informal.) **DMj. PROFESSOR SMITH.**

NOTE.—Related courses are offered in Philosophy, Psychology, Sociology, and Comparative Religion.

CHURCH HISTORY

1. Beginnings of Christianity (1).—A sketch of political, economic, cultural, and religious conditions among both Jews and Gentiles from the Maccabean revolt (167 B.C.) to about 180 A.D., including Jewish political history and the conditions of life in Palestine and during the Dispersion. Especial emphasis will be placed upon the rise and early development of the Christian movement, treating such topics as the work of John the Baptist and of Jesus, the history of Christianity in Palestine, the career of Paul, growth of Christianity during post-apostolic times, Gnosticism, and the early apologists. A prescribed course. (Identical with New Testament 1.) **Mj. PROFESSOR CASE.**

2. The Protestant Reformation.—Extent and state of Christendom at the opening of the sixteenth century; new forces that sweep away the old order of things; Zwingli, Luther, Calvin, as expressions of the spirit of the new era; estimate of the movement in its relations to the general historic process. Mj. ASSOCIATE PROFESSOR MONCRIEF.

PRACTICAL THEOLOGY

1. The Theory of Preaching (1).¹—This course embraces a study of the character and purpose of the sermon, the methods of preparation, and the manner of delivery. The laws of effective popular discourse are studied inductively in connection with the preparation of sermons by the student. Prerequisite: college instruction in composition and rhetoric equivalent to that provided in "English III"; cf. p. 38. Mj. PROFESSOR SOARES.

2. Principles and Methods of Religious Education.—The course is a condensation of course 30 in residence plus course 33A. It provides a general introduction to the field of religious education. At the outset the religious life and its place in human development are defined, and the aim of religious education is made clear. This leads the student to investigate the neighboring fields of psychology and education to discover their contributions to the subject. The moral and religious development of the growing child is considered genetically, and examination is made of available material to determine its value in the various stages of child life. Various methods of conducting organized groups of young people are considered, with special attention to boys' clubs and young people's societies, and the special opportunities of the home, the public school, and the church are indicated. Other community factors are discussed and a basis of co-ordinating all agencies is formulated. Some attention is given to the organization of the modern Sunday school. Mj. MR. NOWLAN.

3. The Modern Sunday School.—This course discusses in detail some of the concrete problems of the modern graded Sunday school: (1) underlying ideals; (2) graded curricula; (3) relative value of the more important series of textbooks; (4) departmental organization and methods of grading pupils; (5) the important element of worship; (6) methods of handwork; (7) the library; (8) the secretary's department; (9) the social life of the school and its relation to the young people's societies and other clubs and organizations; (10) the religious life of the school and educational evangelism; (11) programs of teacher training both within the local church and in city institutes. A graded program of altruistic activity is offered and its relation to the worship and instruction phases is indicated. The course aims to present a workable program for the modern Sunday school based upon the assured results of advanced thinkers and workers in this field. Instruction is by means of textbooks, topics for special study, reports on local observation, and lesson outlines which guide the student in his study of these problems. The course will be of special value to superintendents, lay workers, and pastors who wish to learn more of the best Sunday-school methodology. Anyone who has had high-school training can pursue the course with profit. Prerequisite: if University credit is desired, "Elementary Psychology" or an equivalent course. Mj. MR. NOWLAN.

NOTE.—Related courses are offered in Philosophy, Psychology, Education, Sociology, and Comparative Religion.

¹ Registrations will be accepted after January 1, 1919.

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A N N O U N C E M E N T S

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CORRESPONDENCE-STUDY DEPARTMENT

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JOHN SHARPLESS FOX, PH.D., Instructor in History, Bowen High School (Chicago).
HENRY FREMONT KEEN, Instructor in Accounting, Medill High School (Chicago).
FREDERICK DEAN MCCLUSKY, A.M., Instructor in Education, University of Illinois.
ELSIE SCHOBINGER, A.M., Instructor in French, Harvard School (Chicago).
AMY RACHEL WHITTIER, Instructor in Design, Normal Art School (Boston).

III. GENERAL INFORMATION

Extra-mural Teaching.—All non-resident work for credit is conducted through the Correspondence-Study Department.

1. Teaching by Correspondence.—Experience has shown that many subjects can be taught successfully by correspondence. Direction and correction can often be given as effectively in writing as by word of mouth. Obviously self-reliance, initiative, perseverance, accuracy, and kindred qualities are peculiarly encouraged and developed by this method of instruction.

2. Purpose and Constituency.—Through the Correspondence-Study Department the University offers a large number of the courses given in the classrooms of its different divisions so that those whose formal schooling has been interrupted may continue their studies. The aim is to extend as fast and as far as possible the means and privileges of academic training. Besides contributing to culture, many of the courses, because of their bearing on problems of everyday life, may be turned to immediate practical account.

The courses appeal especially to the following classes: (1) students preparing for college or professional schools; (2) college students who are unable to pursue continuous residence study; (3) grammar and high-school teachers who cannot avail themselves of resident instruction; (4) instructors in higher institutions who desire assistance in the advanced study of some subject; (5) professional and business men who wish to supplement their training; (6) ministers and Bible students who would fit themselves better to use the Scriptures; (7) parents uncertain how to deal wisely with their children—in short, anyone anywhere who desires broader knowledge or more thorough scholarship.

3. Method of Instruction.—Each correspondence course is designed to be equivalent to the corresponding residence course and contains therefore a definite amount of work. A **Major** (Mj.) calls for an amount of work which a student in residence would be expected to accomplish in twelve weeks, meeting his instructor five hours a week. A **Minor** (M.) is half a Major. The resident student who does full work completes three Majors every three months, but the correspondence student is allowed from twelve to fifteen months, according as he registers late or early in the quarter, for completing whatever number of Major or Minor courses he pays for. On the other hand, he is permitted to finish courses as rapidly as is consistent with good work (cf. § 6, *c* and *g*). Courses are of two kinds, formal and informal.

a) The "formal" course furnishes a systematic and progressive presentation of the subject in a given number of lessons (cf. § 6, *o*). Each lesson contains (1) full directions for study, including references to the textbooks by chapter and page; (2) necessary suggestions and assistance; (3) questions to test the student's methods of work as well as his understanding of the ground covered. After preparing for recitation the student writes his answers to the questions and mails them to the instructor, together with any difficulties which may have arisen during his study. This recitation paper is promptly corrected and returned. In like manner every lesson is carefully criticized by the instructor and returned, so that each student receives *personal guidance and instruction* throughout the course.

b) The "informal" course is designed for students who are pursuing studies of an advanced nature. The course is usually arranged between instructor and

student to meet the particular needs of the latter. The formal lesson-sheet is dispensed with, but the course is carefully outlined by the instructor, and the student is required to present satisfactory evidence that the work is being properly done. This evidence may consist of a number of short papers on special themes, a thesis covering the whole work, or it may partake rather of the nature of ordinary correspondence. Courses are "formal" when not otherwise indicated.

4. Admission.¹—(a) No preliminary examination or proof of previous work is required of applicants for correspondence courses. Before matriculating or registering a student, however, the University does require certain information and reserves the right to reject applicants, or to recommend other courses than those chosen, if the data furnished on the application blank justify such action. If the applicant is rejected or the substitution recommended is not accepted by the student, all fees are refunded. The application blank will be supplied upon request. *In every case it should accompany the fee for a new course.*

b) A correspondence student whose standing in one of the Colleges or Schools of the University has not been determined is ranked as an *unclassified student*.

5. Recognition for Work.—(a) A certificate is granted for the satisfactory completion of the recitation work in any Major or Minor course.

b) Admission credit is given for courses covering college-entrance requirements which are satisfactorily completed and passed by examination (cf. § 6, h).

c) College credit is given for courses of a college grade satisfactorily completed and passed by examination (cf. § 6, h).

d) If the student has a record of residence work in the University, credit gained through correspondence courses is immediately transferred to that record; if not, it is held in the Correspondence-Study Department until the student secures such a record.

e) See also "Regulations" (a) and (b) below.

6. Regulations.—(a) The University of Chicago grants no degree for work done wholly in absence. A *minimum* of nine Majors (three full quarters) in residence at the University of Chicago is an unvarying requisite for any degree.

b) Correspondence courses are applicable to the requirements for the different degrees as follows: (1) The candidate for a Bachelor's degree (A.B., Ph.B., or S.B.) may do eighteen of the required thirty-six Majors of college work by correspondence. (2) The candidate for the medical degree (M.D.), or for the law degree (LL.B. or J.D.), or for the Master's degree (A.M. or S.M.) may not reduce the requirements for his degree *in absentia*, because the University gives no instruction in Law or Medicine by correspondence, and the maximum resident time and study requirement for the Master's degree does not exceed the minimum requirement (nine months and nine majors) for any degree. (3) The candidate for the Doctor's degree (Ph.D.) may substitute correspondence for residence work *only* on approval, in advance, of the head of the department in which his work lies. Three years of resident graduate study are expected for this degree. Very few non-resident students command the necessary library or laboratory facilities for graduate study.

NOTE.—The University of Chicago's Bachelor degree, or its full equivalent, is prerequisite for admission to candidacy for a Master's or a Doctor's degree. If a student presents a baccalaureate degree inferior to the University's degree by less than nine (9) Majors, he can make it equivalent by means of correspondence courses and thus be free to devote his entire time in residence to graduate work.

¹ If the student later comes to the University he must satisfy admission requirements (see *Circular of Information of the Colleges and Graduate Schools*, p. 19).

c) A student may begin a course for which he is prepared at any time, but he may not take more than three Majors during any period of three months nor more than one Major in any period of one month. His reports must be distributed with approximate evenness throughout the period of study. Reports may be refused by the secretary or by the instructor in the course concerned if the student attempts to compress his work unduly.

d) An undergraduate student may not carry on correspondence work while in residence without the written permission of the appropriate Dean.

e) A student is expected to complete all the courses for which he pays at any one time *within one year from the end* (i.e., March 23, June 23, September 23, December 23) of the quarter in which payment is made.

f) A student who, for any reason, does not report either by lesson or by letter within a period of ninety days may thereby forfeit his right to further instruction in the course.

g) Extension of time will be granted (1) *for a period equal to the length of time which a correspondence student spends in resident study at the University of Chicago*, provided due notice is given the secretary and the instructor at both the beginning and the end of such resident study; (2) *for twelve months from the date of expiration of the course* if, on account of sickness or other serious disability, the student has been unable to complete the course or courses within the prescribed time (cf. § 6, e), provided (a) he secures the consent of the secretary and his instructor, and (b) pays \$5.00 for each Major course or \$2.50 for each Minor course he wishes to continue. Private arrangement for extension of time between the student and his instructor cannot be recognized by the Department.

h) In order to secure credit for a correspondence course, the student must pass an examination on it within six months from the end of the quarter in which he finishes the recitation work either at the University or, if elsewhere, under supervision which has been approved by the University.

i) During an instructor's vacation a substitute will be provided or the time for completing the course will be extended.

j) The fee for matriculation in the University (\$5.00) is required once, at the time of first registration, of each one who has not matriculated in the institution either as a resident or a correspondence student. The fee is general for the whole University.

k) The matriculation fee will not be refunded to a student whose application has been accepted (cf. § 4, a).

l) The tuition fee will not be refunded on account of a student's inability to enter upon or to continue a course.

m) The student must forward with each lesson a stamped self-directed envelope for its return.

n) A student will be required to pay for but one Major of a Double Major (DMj.) course at a time unless he applies for both Majors.

o) Ordinarily a Major consists of forty and a Minor of twenty lessons; but there may be variations from this number in order to accommodate the work to the requirements of a particular course. Each course represents a definite amount of work (cf. § 3), the number of lessons into which it is divided being incidental.

p) A course announced as a Major may not be taken a Minor at a time.

g) Each correspondence course is equivalent to the corresponding residence course, and commands credit (cf. § 5) unless statement is made to the contrary.

7. Expenses.

a) All fees are payable in advance.

b) The matriculation fee is \$5.00 (cf. § 6, j); the tuition fee for *each* Minor course is \$9.50; for one Major course, \$19.00. If a student pays *at the same time* for two Major courses the tuition fee is \$36.00; for three Major courses, \$50.00. No reduction is made for Minor courses included in a combination. The tuition fee includes payment for the instruction sheets received. Books which cannot be borrowed (cf. § 10) must be purchased by the student. Ordinary textbooks are not loaned.

c) The student is required to inclose a stamped self-directed envelope with each lesson for its return (cf. § 6, m).

d) Money should be sent in the form of postal or express order or New York or Chicago draft, made payable to the University of Chicago. The Chicago clearing-house charges exchange on all other forms of remittance—15 cents on sums up to \$50.00.

8. Method of Registration (recapitulated).—(a) Forward to the Secretary of the Correspondence-Study Department a formal application for *each* course desired, with the appropriate fee: (1) \$5.00 for matriculation, if not matriculated in the University (cf. § 6, j); (2) \$9.50 for each Minor course, or \$19.00, \$36.00, or \$50.00, according as one, two, or three Major courses are applied for; (3) an additional fee for certain courses in the sciences.

9. Scholarships.

The scholarships heretofore awarded for successful correspondence-study work have been abolished. Those earned through registration effected prior to June 23, 1921, must be used before December 23, 1923.

10. Books, etc.—For the convenience of students arrangements have been made through the usual channels of the University whereby supplies, such as books, maps, etc., which are needed in the different courses can be furnished at prices which will be quoted on application to the Correspondence-Study Department. Sometimes *books of reference* may be borrowed from the University libraries. Applications for loans should be addressed to the Director of Libraries of the University of Chicago.

IV. THREE PROGRAMS OF HIGH-SCHOOL WORK

The 15 units¹ of high-school work required for admission to the University must include:

- 3 units of English.
7 units of subjects in Groups 1-6 (see below), to include *at least* 3 units in a single group and *at least* 2 units in another single group.
5 units of any subjects for which credit toward its diploma is given by an approved school.

To fulfil admission requirements most effectively and to leave the maximum freedom of election in college, the following programs are recommended in preparation for college work leading to the different Bachelor degrees:

A.B.	Units	Ph.B.	Units	S.B.	Units
English.....	3	English.....	3	English.....	3
Greek.....	3	One foreign language..	3 (or 2)	Science.....	3 (or 2)
Latin.....	4	History.....	2 (or 3)	Mathematics.....	2 (or 3)
Mathematics.....	2	Mathematics.....	2	One foreign language.....	2
Electives from Groups		Science.....	2	History.....	2
3, 4, and 6.....	3	Electives from Groups 1-6.	3	Electives from Groups 1-6.	3
Total.....	15	Total.....	15	Total.....	15
Group 1.—Greek.					
Group 2.—Latin.					
Group 3.—Modern Language other than English (French, German, Spanish).					
Group 4.—History, Civics, Economics, Commercial Law.					
Group 5.—Mathematics.					
Group 6.—Science (Physics, Chemistry, Botany, Zoölogy, General Biology, Physiology, Physiography, Geology, Astronomy, Commercial Geography).					

Any combination of the subjects within each group is permitted but not less than $\frac{1}{2}$ unit of any subject may be offered. Not less than 1 unit of Algebra, Plane Geometry, Physics, Chemistry, or a language may be offered. To meet the 2 or the 3 units-in-a-single-group requirement in Groups 1, 2, or 3, the work offered must all be in *one* language.

Correspondence-Study Courses Which Offer High-School Work²

	Units
Political Economy—"Bookkeeping"	$\frac{1}{2}$
History—"Outline History of Antiquity" (A and B)	1
"Outline History of Europe" (A and B)	1
"Outline History of England" (A and B)	1
"Outline History of the United States" (A and B)	1
Greek—"Elementary Greek" (A and B)	1
"Xenophon: <i>Anabasis</i> " (A and B)	1
"Homer: <i>Iliad</i> " (A and B)	1
Latin—"Elementary Latin" (A and B)	1
"Caesar: <i>De Bello Gallico</i> " (A and B)	1
"Cicero: <i>Orationes</i> " (A and B)	1
"Vergil: <i>Aeneid</i> " (A and B)	1
French—"Elementary French" (A and B)	1
"Intermediate French" and "Advanced French"	1
Spanish—"Elementary Spanish" (A and B)	1
"Intermediate Spanish" and "Advanced Spanish"	1
German—"Elementary German" (A and B)	1
"Intermediate German" and "Elementary Prose Composition"	1
"German Idioms and Synonyms" and "Modern German Plays"	1
English—"Prep. English Composition—A" and "Prep. English Literature—A"	1
"Prep. English Composition—B" and "Prep. English Literature—B"	1
"Prep. English Composition—C" and "Prep. English Literature—C"	1
Mathematics—"Elementary Algebra" (A, B, and C)	1 $\frac{1}{2}$
"Plane Geometry" (A and B)	1
"Solid Geometry"	$\frac{1}{2}$
Physics—"Elementary Physics" (A and B)	1
Physiography—"Physical Geography"	$\frac{1}{2}$
Drawing—"Freehand Drawing"	$\frac{1}{2}$
"Projective Geometry"	$\frac{1}{2}$

¹ A unit represents 120 sixty-minute recitation periods and may be made up by two Majors.

² These courses when completed and passed will be accepted in lieu of entrance requirements. Many of these courses, if not offered for admission, will command college credit, but see paragraph "Limited Credit," p. 12.

V. THE REQUIREMENTS FOR A BACHELOR'S DEGREE

A total of 66 Majors representing four years (15 units, approximately 30 Mjs.) of high-school work and four years (36 Mjs. with 72 "grade points") of college work are required for a Bachelor's degree. Any amount of the high-school work and as much as one-half (18) or the 36 Majors of college work may be done by correspondence.

REQUIRED COLLEGE WORK

1. *Specified*.—"English I" and "English III."
2. *Continuation*.—Three Majors of that subject in which 3 (or 2) units of admission work are offered or of that subject in which one unit of Senior high-school work is offered.
3. *Distribution*.—Enough Majors in each of the following groups to make the total (high-school+college) credit, 4 Majors (=2 units):

I. Philosophy, History, and the Social Sciences.

II. Language other than English (i.e., Greek, Latin, French, German, or Spanish). The four Majors must be in *one* language.

III. Mathematics.

IV. Science.

4. *Sequences*.—(a) One *principal* sequence of at least 9 coherent and progressive Majors taken in one department or in a group of departments. (b) One *secondary* sequence of at least 6 Majors selected from a different department or group of departments. These sequences must have the approval of the Dean. The work in the Divinity School, the Law School, the Courses in Medicine, or the College of Education may be counted in satisfaction of either sequence.

The degree of A.B. is conferred when the principal sequence consists of 11 Majors of Latin and 9 Majors of Greek (7 if all are of a college grade; cf. p. 27, of this *Circular*), including entrance work. A secondary sequence of 6 Majors is also required.

The degree of Ph.B. is conferred when the principal sequence has been taken in any one of the subjects from Philosophy to General Literature, inclusive.

The degree of S.B. is conferred when the principal sequence has been taken in any one of the subjects from Mathematics to Hygiene and Bacteriology, inclusive.

Mathematics may, at the option of the student, be used as the principal sequence for either the Ph.B. or S.B. degree.

No courses counted in satisfaction of entrance requirements, or of the provisions of paragraphs 1 and 3, shall count in making up the principal and secondary sequences, except in the case of the 9- and 11-Major groups in the requirements for the A.B. degree.

At least 12¹ of the 36 college Majors must be courses designated as of Senior College grade or as graduate courses to which undergraduates are admitted.

Not more than 18 Majors may be taken in college in one department.

Limited Credit.—Certain Junior College courses are subject to the following limitation of credit: (a) full credit is given only when these courses are taken among a student's first 18 Majors, and the total number so taken may not exceed 9; (b) after a student has credit for 18 Majors but less than 27, these courses will be credited at one-half Major each; after he has credit for 27 Majors, they will not be credited at all. Limited credit courses are starred (*) in this *Circular*.

¹ Ten instead of 12 in case of a student who has credit for 4 units of preparatory Latin and 3 Majors of college Latin; and two Majors in like manner will be allowed from the 12 for a student who is credited with 3 units of preparatory Greek and 3 Majors of college Greek.

VI. COURSES OF INSTRUCTION

Note.—The number in parenthesis immediately following the title of a course is that of the equivalent in residence. A star (*) after the number indicates "limited credit" (cf. page 12).

PHILOSOPHY

1. Logic (3).—A course devoted to a careful study of the essentials of logical thinking. It includes (1) an inquiry into the conditions under which thinking takes place, (2) an examination of the forms in which it goes on, and (3) an exposition of the laws to which successful thinking must conform. In addition to the topics usually taken up under the head of "Logic," such as concepts, judgments, induction, deduction, hypothesis, methods of scientific investigation, evidence, proof, fallacies, etc., considerable attention will be given to the psychology of thinking in order that the student may become more critical of his own thinking, better understand the opinions and behavior of others, more fittingly adapt his arguments and presentations to the requirements of particular situations, and more intelligently and effectively assist pupils and others to attain habits of rigorous and efficient thought. The student may expect, accordingly, to acquire not only a knowledge of logic and a certain training in critical habits of thought but also a good foundation for subsequent study in education and philosophy. While "Introductory Psychology" is a helpful preliminary, the course may be taken successfully by anyone who is prepared for thorough study of a college grade. Mj. PROFESSOR ASHLEY.

2. Ethics (4).—An introductory course intended (1) to familiarize the student with the main aspects of ethical history and theory, and through this (2) to reach a method of estimating and controlling conduct. The main divisions of the course are (a) the general nature of moral conduct; (b) a study of the evolution of the moral problem from primitive life to the present; (c) a comparative study of current ethical theories; (d) application of the foregoing to present problems of social and individual life. The course will be based on the text of Dewey and Tuft's *Ethics*, with collateral study of Mill's *Utilitarianism*, Kant's *Metaphysics of Ethics*, and Spencer's *Data of Ethics*. Mj. PROFESSOR ASHLEY.

3. Aesthetics (6).—This course deals with the following elementary aspects of beauty and of art forms: (1) psychological principles involved in the appreciation of beauty and its expression; (2) the character of primitive art; (3) the perception of form and the nature of rhythm; (4) description of the special arts—painting, sculpture, architecture, music, and the drama; (5) certain general relations of the aesthetic to other types of experience. Prerequisite: "Introductory Psychology" or an equivalent course. Mj. ASSOCIATE PROFESSOR TALBERT.

4. Introduction to Philosophy (7).—An elementary treatment of important problems of reflective thought. The Greek point of view regarding ethics, logic, art, mind, and education is reached through a study of Plato's *Republic*. Leading philosophic attitudes of modern thinkers are then considered. Mj. ASSOCIATE PROFESSOR TALBERT.

5. Greek and Mediaeval Philosophy (10).—This course is designed (1) as a survey of the history of thought, considered in its relations to the sciences, to literature, and to social and political conditions, and (2) as an introduction to philosophy through a more careful study of some of the most important systems. Special attention will be given to the study of the more important dialogues of Plato and to Aristotle's *Ethics*. Mj. PROFESSOR TUFTS AND DR. TAEUSCH.

6. Modern Philosophy (11A).—Descartes to Hume, with special study given to Descartes' *Meditations*, Locke's *Essay*, Berkeley's *Principles of Human Knowledge*, and a portion of Hume's *Treatise on Human Nature*. Mj. PROFESSOR TUFTS AND DR. TAEUSCH.

7. Introduction to Kant (11B).—Watson's *Selections* and Mahaffy and Bernard's editions of *The Critique of Pure Reason* and *Prolegomena* will be made the basis of the work. The course will be opened with a brief study of the thought of Leibnitz, for which Dewey's *Leibnitz* will be used. This will be followed by a brief outline of Kant's early development and a detailed study of the more important portions of *The Critique* as found in Watson's *Selections*. Prerequisite: course 6 or its equivalent. Mj. PROFESSOR TUFTS AND DR. TAEUSCH.

8. Movements of Thought in the Nineteenth Century (12).—The course continues in less technical manner the history of modern philosophy: romanticism as represented by Rousseau and certain poets; idealism in German philosophy and in Carlyle; utilitarianism; positivism; transcendentalism as seen in Emerson's view of nature and man; the doctrine of evolution, particularly in its relation to human society and the problems of morality as considered by Huxley; the relation of the scientific to the philosophic point of view as defined by Royce. Those who register for the course should have access to a good library or be prepared to purchase a number of books. Prerequisite: two of the three courses, 5-7. Mj. PROFESSOR TUFTS.

9. Contemporary Philosophy (13).—Selected works of Bergson, James, and other writers representing the several schools of thought are studied in detail, the purpose being to illustrate types of philosophic thought. Some of the problems considered are (1) the relation of philosophy to science; (2) the nature of freedom, space, and time; (3) the definition of truth; (4) the contrasting stand-points of absolutism and pragmatism. This course furnishes the student an opportunity to read the serious thinkers of the day who are now exerting influence and to formulate by comparison and criticism a point of view of his own. Mj. ASSOCIATE PROFESSOR TALBERT.

10. Evolution and Modern Thought.—To trace the important consequences of Darwin's theory and method is the object of this course. Starting with an outline of the elements of Darwin's hypothesis, attention is first directed to the history of the English development, followed by a consideration of the contributions of selected European and American writers. The conclusion of the study suggests the way in which the concept of evolution affects general philosophical attitudes as expressed by recent schools of philosophy. Mj. ASSOCIATE PROFESSOR TALBERT.

11. Evolution of Morality (20).—A study of the historical development of the moral life and of moral standards in relation to the social, economic, and political conditions, and also to custom, law, and religion. The course will be based largely upon Hobhouse's *Morals in Evolution*, with readings from Sumner's *Folkways* and Westermarck's *Origins and Development of the Moral Ideas*. Mj. PROFESSOR TUFTS AND DR. TAEUSCH.

12. Origins of Scientific Attitudes and Concepts.—The life of selected primitive groups is examined to bring out the genesis of the logical and scientific interest, as distinguished from the religious, the aesthetic, and other interests. Prerequisite: Several courses in Philosophy and a course dealing with primitive society or some phase of social evolution. Mj. ASSOCIATE PROFESSOR TALBERT.

Hindu Philosophy.—(Cf. description under Comparative Philology 6).—Mj. ASSOCIATE PROFESSOR CLARK.

PSYCHOLOGY

1. Introductory Psychology (1).—This course takes up the general study of mental processes. It aims to train the student to observe the processes of his own experience and those of others, and to appreciate critically whatever he may read along psychological lines. It is introductory to all work in philosophy and pedagogy and is an important part of equipment for historical and literary interpretation. Mj. ASSOCIATE PROFESSOR CARR.

2. Psychology of Thinking (introductory course).—The purpose of this course will be to investigate the character and function of thinking. Thinking will not be regarded in accordance with popular usage as a common term for all sorts of imagery but will be treated as a reflective process, which arises because of difficulties in our experience and has its object and justification in their solution. The psychology of thinking will include, therefore, (1) a preliminary study of conduct or behavior, with a view to determining the conditions which give rise to problems and reflective processes, and (2) a more detailed account of the way in which thinking proceeds in our attempt to solve these problems. In connection with the general investigation various applications to education, science, and practical affairs will be pointed out—partly for the purpose of illustration and partly for the value which the student who is interested in these fields will derive from the point of view which the course will tend to develop. No special preparation is required as a prerequisite, but any work which the student may have had in biology or psychology should be of considerable assistance. Mj. PROFESSOR ASHLEY.

3. Psychology of Advertising.—A systematic treatment of the psychological problems of advertising and selling under such topics as : (1) attracting attention; (2) inciting interest; (3) arousing desire; (4) securing action; and as means to these ends, among others; (a) effects of mechanical arrangements; (b) appeals to instinctive and reasoned action; (c) the psychology of color; (d) influence of illustrations, imagery, etc. The course aims to expose to view the mind of the prospective buyer with its manifold desires and aversions, and to direct the student toward a scientific method of approaching it. While the course is devoted strictly to advertising, it still furnishes to the business student, or the business or professional man, a fund of knowledge applicable to marketing in the wider sense. Practical exercises and minor investigations are assigned in order to make the student sensitive to psychological considerations and to illustrate the use of scientific methods in the field. Mj. PROFESSOR KITSON.

4. Social Psychology (4).—A study of (1) institutions, and the innate endowment of human nature; (2) effect upon mind of interpersonal contact; (3) interpretation of the concepts of the social psychologists; (4) relation of these concepts to the theories of the psychiatrists and Freud. Constant practical applications are made. Mj. ASSOCIATE PROFESSOR TALBERT.

5. Advanced Psychology (11).—This course undertakes a somewhat more detailed inquiry into the fundamental presuppositions and problems of psychological theory than is possible in course 1. Some consideration is given to the contributions made by recent movements, such as behaviorism, imageless thought theories, the psychoanalytic school, individual and differential psychology, etc. The course presupposes Psychology 1, or a familiarity with such a text as Angell's or Judd's or Breese's *Psychology*, Pillsbury's *Essentials or Fundamentals of Psychology* or Titchener's *Outlines of Psychology*. Mj. ASSISTANT PROFESSOR KINGSBURY.

6. Psychology of Religion (5).—Emphasis is laid on the origins of religion in primitive society, the function of religion from psychological and sociological points of view, and its relation to science and democracy. Part I treats the salient aspects of primitive religion—as custom, taboo, magic, ceremonial, myth, spirits, sacrifice, and prayer. Part II discusses the evolution of religion in the individual from childhood to maturity; the psychology of conversion and religious education are important topics. In Part III the wider aspects of religion are studied: the value and limitations of sects, the nature of religious genius, non-religious persons, and the difference between the religious attitude of primitive man and the attitude of the modern individual. Throughout the course the purpose is to consider religion as a normal phenomenon related to human values and institutions and having an identical function from past to present, notwithstanding vast changes in its forms and doctrines. Mj. ASSOCIATE PROFESSOR TALBERT.

Social Groups.—(Cf. description under Sociology 3.)

EDUCATION AND METHODS IN DIFFERENT SUBJECTS

(For courses see pp. 57 ff.)

POLITICAL ECONOMY

1. Industrial Society (0).—This course presents a general survey of industrial society, its structure, its institutions, its operations. As a basis for comparative study, the first part of the course examines briefly the structures of mediaeval industrial society and the evolution of modern capitalistic industry. The second part of the work deals with certain outstanding features of the present industrial society, such as private exchange co-operation; the pecuniary organization of society and the financial institutions resulting therefrom; specialization and interdependence; the significance of technology, using machine industry as an illustrative case; speculative industry, risk and risk bearing; the position of the worker under a wage system in capitalistic machine industry; concentration in the sense of large-scale production; concentration of the ownership of wealth and income; concentration of control of industry; impersonal relations; the guidance of economic activity. The third part of the course is concerned with some underlying assumptions of our present regime, such as private property, competition, and the social control of industrial activity. The course is designed to serve as an introduction to the later work in economics, which is so arranged as to constitute progressively more intensive studies in the field here rapidly surveyed. In connection with course 2 it serves as a general introduction to the courses in business. Mj. PROFESSOR MARSHALL AND ASSISTANT.

2. Value and Distribution (1).—This course is designed to work out the principles of value, including those determining rent, wages, interest, and profits in our pecuniarily organized society. It is prerequisite to all later courses in economics and commerce and administration. The course deals with elementary concepts and presupposes no previous training in economic theory, although it may be said that the training which course 1 provides will prove useful. Mj. MR. ATKINS.

3. Business Management (01).—This course gives a general survey of the problems of management from the desk of the business manager. It takes up such topics as: (1) the manager's relation to his environment, using the problem of plant location as a specific illustration; (2) the manager's relation to his workers—selection, placement, wages, rewards; (3) the manager's relation to the market—market analysis, advertising, sales methods, purchasing; (4) the manager's relation to finance organization—policies, occasionally used devices; (5) the manager's relation to risk; (6) organization—the line and staff, unit system, functional method, etc., principles and practices of management. Nothing more than a survey of the problems involved is attempted; more intensive work in limited fields being left to advanced courses. The course furnishes a background for the teaching of commercial subjects and contains illustrative material for the teacher of economics. For the business man it offers a survey of the highly interrelated problems of the business organism in which his particular activities are placed. It presupposes no specialized training in economics although the student will find that course 1 or training in business will be of some value. Mj. MR. ATKINS.

4. The Financial Organization of Society.—This course undertakes a general study of the part that money, in its various rôles—as a pecuniary unit of calculation, a standard of deferred payments, and a medium of exchange—plays in the organization of industrial society. Since modern industry is largely conducted on the basis of borrowed funds, the entire credit mechanism is involved. The course therefore includes an analysis of: (1) the processes of and the problems associated with the raising of funds for fixed and working capital requirements, through the use of investment and commercial credit instruments in the form of stocks and bonds, bills of exchange and promissory notes, respectively; (2) the services rendered by the numerous types of financial institutions that have been

developed in connection with the marketing of corporate securities—underwriting syndicates, distributing bond houses, savings banks, insurance companies, commercial banks, brokerage concerns, the stock exchange, etc.; (3) the financing of agricultural business and the market mechanism that this has required; (4) private borrowing for non-business purposes and the organization of the private loaning business. The study aims to reveal the economic functions performed by the various types of financial agencies that have been developed and to show whether these agencies on the whole promote an efficient and well-balanced national life. It seeks to disclose such weaknesses as have developed from time to time, and to show how and to what extent these have been eliminated by private and government regulation. Finally, it endeavors to ascertain what defects in the financial organization of society still persist and, where possible, to point the way to their elimination. The many types of financial institutions and instrumentalities which function in modern industrial society are not conceived and discussed as isolated economic agencies; they are considered as parts of an intricate financial structure, closely interwoven with the entire economic organization by means of which the material wants of the world are supplied. In a word, the course is a study of the general economic organization from the point of view of finance. It is a prerequisite to all the other courses in the financial field. Mj. MR. MEECH.

5. Business Communication (85A).—A survey of the communicating activities of business and training in the presentation of material for business purposes. Since effective communication in business requires a close knowledge of human nature, calls for pictures and diagrams as well as words, and often involves the use of type, this course makes a study of the psychological, graphic, rhetorical, and typographical aspects of business communications. No one medium or form is analyzed exhaustively, but the technique which is common to all forms of business communication is discussed and illustrations are sought among a wide variety of forms—reports, letters, folders, booklets, cards, signs, newspaper and magazine advertisements, window displays, catalogues, house organs, charts, etc. Assignments are made which involve gathering material from both printed sources and the field and the presentation of material to secure attention, interest, understanding, belief, memory, action, and good-will. This practice work includes reports, letters, advertisements, editorials, and business articles. In the case of salesmen, correspondents, copywriters, secretaries, house-organ editors, executives, commercial teachers, and others whose interest in this course is specialized, the readings and practice work assigned will be adapted as far as possible to the individual student. The course presupposes the ability to write English which is correct and reasonably effective. Some knowledge of business organization and psychology is desirable. Mj. ASSISTANT PROFESSOR BARNES.

6. Business Correspondence (86A).—This course offers intensive training in the writing of business letters with some discussion of the problems of management connected with correspondence. The best business practice of the day is studied through readings from many sources and specimen letters. Through a series of graded-letter problems the student has an opportunity to apply the principles of psychology and to develop judgment on points of business policy. This practice work covers a wide variety of letters, with the emphasis placed on sales letters, adjustment letters, or collection letters according to the individual student's dominant interest. The course presupposes the ability to write English which is correct and reasonably effective. Mj. ASSISTANT PROFESSOR BARNES.

Psychology of Advertising.—(Cf. description under Psychology 3.)

Economic History of the United States.—(cf. description under History 21.)

ACCOUNTING

7. Bookkeeping.—This course gives a full treatment of the underlying principles of bookkeeping. Its purpose is to acquaint the student with the theory and nature of accounts. The subjects treated will be (1) forms of accounts

(2) books used in accounting, (3) mode of handling commercial papers, (4) the recording of transactions, and (5) double-entry methods in retail business. In the first half of the course a retail proprietary business is conducted and properly closed. Following this a partnership is opened, introducing a new line of trade and distributing profits proportionately among partners. All principles presented are practically illustrated by a series of transactions that the student will be required to enter in a set of forms which accompany the textbook required in the course. Prerequisite: a working knowledge of arithmetic. [This course commands admission credit only.] Mj. Mr. KEEN.

8. Wholesale Partnership Accounting.—This course follows course 7 and is designed for students who have completed that course or who are familiar with the principles of bookkeeping therein enunciated. The articles of co-partnership are introduced and explained; the net profits or losses are carried to the partners' accounts and the books formally closed. New accounts pertaining to a wholesale trade are taken up in addition to those previously studied. Special attention is given to the method of handling invoices and sales by the loose-leaf system. Also the sales ledger with its controlling account, the bills-receivable and the bills-payable books, are introduced. A system of keeping departmental costs is fully carried out, showing a comparison of the costs and sales in the several departments in the business. As in course 7, the student is required to do the practical work in recording transactions and handling the commercial papers pertaining thereto. Mj. Mr. KEEN.

9. Corporation Accounting.—This course provides a tabulated study of the laws of all the states with reference to the formation and conduct of corporations. Then follow the opening of a set of corporate books under various conditions; the conversion of a partnership into a corporation; the treatment of good-will as a resource; the manner of issuing, transferring, and canceling stock; the keeping of all special account books used in corporate accounting; the making of balance sheets and the peculiar items composing them; the sources of income, the declaring of dividends, reserve fund, surplus, depreciation, and the closing of the books for a fiscal period. The student is required to record the operations of a manufacturing corporation for two financial periods, thus illustrating the foregoing principles, and also to conduct the payment of all obligations by the voucher system. Incidental to record sheets, and in connection with special references given, the discussion of problems related to corporate accounting is called for. Prerequisite: course 7 or its equivalent. Mj. Mr. KEEN.

10. Cost Accounting.—This course is designed to give a detailed analysis of that type of accountancy which deals particularly with the various expenses incident to preparing products for the market. All underlying principles are duly outlined, and their interrelation and application are illustrated. Both department method and cost method are analyzed, and their advantages are shown. A synthetic set of problems is used to introduce the working out of costs and to reflect the principles, theoretically discussed, as they are actually involved in the process of manufacturing. Following the introductory examples is given the actual work of a large factory during two months of its operation. All transactions, from organization to closing of accounts, are recorded in the most systematic and thorough manner. In conjunction with this laboratory work, papers on office and shop investigation are called for. Prerequisite: course 9 or its equivalent. Mj. Mr. KEEN.

11. Bank Accounting.—This special form of accountancy is treated in conformity with thoroughly modern practice in banks. The text used has been compiled recently by an eminent certified public accountant, and embodies both practical experience and ample investigation. The development of the lessons is such as to enlist and hold the student's interest. The basis of banking is shown. Exercises in statements of credit are given. Illustrated exercises in opening the books of a bank are preliminary to three periods of specific bank transactions which must be posted. The books will then be closed and all statements made. Prerequisite: course 7 or its equivalent. Mj. Mr. KEEN.

POLITICAL SCIENCE

1. Civil Government (1).*—This course is devoted to an analysis of the organization and activities of the American government, local, state, and national. Some of the topics treated are (1) the historical foundations of American institutions; (2) the evolution of federal and state constitutions; (3) the development of political parties and party machinery; (4) nominations and elections; (5) the organization, powers, and duties of the executive, legislative, and judicial departments of the federal, state, and local governments; (6) city government; (7) public administration and administrative reform; (8) a critical estimate of the abilities of men now in public office or in positions of political importance; (9) government regulation of business through such agencies as the Interstate Commerce Commission, the federal Trade Commission, and the state regulating bodies; (10) the welfare activities of the various governmental agencies. Emphasis is placed upon the actual work governments perform. Mj. MR. GOSNELL.

2. Elements of Business Law.—This course deals with the following branches of private law: (1) contracts; (2) sales; (3) bills and notes; (4) agency; (5) partnership; (6) private corporations; (7) bailments; (8) guaranty and suretyship. These are the subjects most closely connected with the ordinary transactions of business. The general doctrines and underlying principles of these branches are discussed and analyzed and their application illustrated by actual cases. The purpose of this course is twofold: (1) to give to the man of business a knowledge of the general character and extent of his legal rights and duties; (2) to give to the general student an introduction to the study of the nature and doctrines of American private law so far as they are illustrated in the subjects treated. Mj. ASSOCIATE PROFESSOR HALL.

3. Elements of International Law.—A study of the rules observed by civilized nations in their relations with each other. The course includes a general consideration of the history and development of international law and a more detailed study of the subject in its three fundamental divisions of peace, war, and neutrality. Some of the topics treated are the nature, sources, and divisions of international law; the intervention of one nation in the affairs of another; the rights and duties of nations in connection with property; the extent and nature of a nation's jurisdiction over its territory, subjects, and public and private vessels; the rights and duties of diplomacy; modes of warfare; recognition of belligerency; effect of war on treaties; rules of war on land and sea; rights and duties of neutral states; blockade; contraband of war, etc. The course is not strictly technical in character, and should prove of value to those desiring a better understanding of current international affairs, as well as to lawyers and teachers of history and political science. The work will be based on a standard text, supplemented by a book of cases on international law. Mj. ASSOCIATE PROFESSOR HALL.

4. Constitutional Law in the United States.—A study of the principles of constitutional law as they have been developed in relation to the federal constitution and to some of the more important provisions of the state constitutions of the United States. The general topics discussed are (1) the nature of American constitutional law; (2) making and changing of the American constitution; (3) separation of powers; (4) function of judiciary in enforcing constitutions; (5) political rights; (6) personal and religious liberty; (7) protection to persons accused of crime; (8) due process of law and equal protection of the law in regard to procedure, the police power, power of taxation, and the right of eminent domain; (9) laws impairing the obligations of contracts; (10) powers of the federal government and their exercise; (11) regulation of commerce; (12) inter-governmental relations; and (13) jurisdiction of the federal courts. This course is based upon the study of actual cases, which, wherever practicable, have been so selected and arranged as to show not only the law as expounded by the courts today but also its historical development. This is supplemented with the text, which gives an exposition of the general rules derived inductively from a study of the cases. As far as possible technical terms are avoided, so that the course will be of equal value to the general student, the political scientist, and the lawyer. Mj. ASSOCIATE PROFESSOR HALL.

NOTE.—Related courses are offered in Political Economy, History, and Sociology.

HISTORY

HIGH SCHOOL

The outline courses 1-4 are designed to meet college-entrance requirements in ancient, European, English, and American history, respectively. For A and B together, of each course, one unit of admission credit is allowed. The suggestions for study are made very definite as helps to beginning students and as an outline for high-school teachers.

1. Outline History of Antiquity.

A. *Oriental and Greek History to 200 B.C.*—A general narrative and descriptive history of Greece to the Roman conquest, with an account of the oriental nations that especially influenced Greek civilization. Mj.

B. *Roman History to the Dissolution of the Empire.*—A general view of Roman history from the early Republic to the break-up of the later empire with special attention to the government and institutions of the Romans. Mj.

ASSISTANT PROFESSOR KNOX.

2. Outline History of Europe.

A. *The Decline of the Roman Empire to the Reformation (376-1500).*—This course includes a study of the essentials in mediaeval European history from the fall of the Western Roman Empire to the Reformation. Mj.

B. *The Reformation to the Present (1500-1914).*—The course aims to give the student a general understanding of the principal territorial changes, national policies, economic conditions, and intellectual interests of Europe during the last 400 years. Mj.

ASSISTANT PROFESSOR KNOX.

3. Outline History of England.

A. *English History to 1603.*—An introductory study of the origin and formation of the English nation to the death of Elizabeth. Besides tracing the outlines of political and constitutional development, the course deals briefly with social and institutional history and with the growth of civilization and culture. Mj.

B. *English History from 1604 to the Present.*—Politically and constitutionally the course treats of the rise of Parliament in the seventeenth century, the growth of cabinet government in the eighteenth century, and the growth of popular control over Parliament in the nineteenth century. The colonial expansion of England, the growth of the British Empire, and the main facts and results of the industrial revolution are studied. Mj.

DR. FOX.

4. Outline History of the United States.

A. *American History to the Formation of the Constitution (1492-1788).*—The course traces the history of the English colonies on the Atlantic coast from the planting to their union under a written constitution. Political and social institutions in the colonies and such economic conditions as affected their development are studied with some care. European rivalries and colonial wars are made subordinate to their results. Other main topics are the relations of the colonies to the mother-country and to each other; their defense of "the rights of Englishmen" in the face of British colonial policy after 1760; the Revolution and independence; the difficulties of forming a permanent political union; the Articles of Confederation and their failure; the Constitution. Mj.

B. *The Nation under the Constitution (1789-1914).*—Up to the Civil War the course treats of the organization of the new government; foreign and domestic problems; the services of the Federalists and their overthrow; Jeffersonian policies; the War of 1812 and results; political and economic reorganization; westward extension and the rise of national democracy under Jackson; the Monroe Doctrine and territorial expansion; the slavery controversy and the triumph of nationalism over sectionalism in 1865. Following the Civil War the chief topics are political and economic readjustments to 1877; industrial

development; economic problems and legislative regulation; civil service and political reform; the growth of socialistic legislation; the Spanish War and "imperialism"; the Wilson policies. Mj.

DR. FOX.

COLLEGE

5. History of Antiquity to the Fall of the Persian Empire (A6).—In this course the ancient history of the Near East—Babylonia, Egypt, Assyria, Syria, Israel, etc.—is studied in its development from the Pre-historic Age to the fall of the world-empire of Persia. The contributions to human progress rather than mere dynastic history are emphasized, and some experience in the study of history, as well as a habit of systematic work, is essential. Mj. ASSISTANT PROFESSOR KNOX.

6. History of Greece to the Death of Alexander (A12).—This course presupposes a general knowledge of the external facts of Greek history (course 1A). It treats of the Pre-historic Period, the beginnings and development of Greek states, colonization, internal and external conflicts, Greek institutions and contributions to civilization, and the rise and expansion of Macedonia. Mj. ASSISTANT PROFESSOR KNOX.

7. History of Rome to the Antonines (A13).—A general view of the political, economic, and cultural development of Rome to the close of the first century A.D. Mj. ASSISTANT PROFESSOR KNOX.

8. European History: The Mediaeval Period (376–1300) (1).*—A view of conditions while the Germans and Arabs were breaking up the Roman Empire, the growth of new European states, the Christian church, the Holy Roman Empire, Feudalism, and in general a study that treats the important factors of mediaeval history for their own sake and as a basis for a proper understanding of the modern period. The needs of the teacher as well as those of the general student are met in this course. Mj. ASSISTANT PROFESSOR KNOX.

9. European History: The Later Mediaeval and Early Modern Period (1300–1715) (2).*—The course opens with a study of Europe during the period of the Renaissance and extends to the reconstruction of Europe at Utrecht. Besides the Renaissance, the chief topics studied are the Reformation and its results; the growth of national states; the "wars of religion" to 1648; the ascendancy of France; the English constitutional struggle of the seventeenth century, and the colonial expansion of Europe following the period of exploration and discovery. Mj. DR. FOX.

10. European History: The Later Modern Period (1715–1910) (3).—In the eighteenth century the principal topics studied are the rise of Prussia and Russia; the colonial supremacy of England; the ancient regime in Europe; the era of the French Revolution and Napoleon. Following this the course will treat the political reconstruction of Europe in 1815, political and constitutional reform, the unification of Italy and the formation of the German Empire, the Balkan problem, the industrial revolution, European imperialism, and the growth of democracy and socialism. The course furnishes a general preparation for the study of the Great War. Mj. DR. FOX.

11. Europe during the Renaissance (1250–1500) (B6).—A survey study of the period of the Renaissance in Europe. In addition to a general understanding of important events, emphasis is laid upon exploration and discovery; the growth of nationality; the expansion of the Ottoman Empire; commercial and industrial conditions, and the prominent intellectual and religious movements. Prerequisite: course 8 or its equivalent. Mj. DR. FOX.

12. Europe during the Reformation (1517–1648) (C4).—This course is a study of the causes, events, and results of the Reformation in Europe. Much attention will be given to the political, social, and economic phases of the movement, the inseparable religious questions being discussed only so far as is necessary to an understanding of the period. Prerequisite: course 9 or its equivalent. Mj. DR. FOX.

13. The French Revolution and the Era of Napoleon (C6).—The ground will be cleared for the history of the period by a careful study of the institutions of the Old Regime, in which the remoter causes of the Revolution will be discovered. A consideration of the more immediate causes and the attempts at reform will introduce the Estates General. The Revolution ran through three periods which answer to the National Assembly, the Legislative Assembly, and the Convention, to the extreme of a red democracy. Three more periods, corresponding to the Directory, the Consulate, and the Empire, see France return to a military absolutism under Napoleon. The greatest emphasis will be laid upon the institutional changes induced by the French Revolution, and attempt will be made to show the constructive work of the Revolution and of Napoleon. Its importance as one of the greatest generic events of the world's history will give the course a significance wider than France alone. It is desirable that the student be familiar with the outlines of modern European history. Prerequisite: course 9 or its equivalent. Mj. Dr. Fox.

14. The Expansion of Europe in the Nineteenth Century (C10).—Considers not only the extension of political control of European nations and the movement of European population to all parts of the world, but also other aspects of the movement by which Europe has touched and modified every part of the globe: missions, trade, investment of capital, etc. European activities outside of Europe are emphasized. A brief review of the earlier stages of expansion is followed by more detailed study of (1) the development of British colonial policy; (2) India since 1763; (3) Australia; (4) Canada; (5) South Africa; (6) problems of imperial organization; (7) Russian expansion in Siberia and Central Asia; (8) the opening of China to Western influence; (9) the awakening of Japan; (10) Europe in the Far East; (11) the Boxer Rebellion; (12) Russo-Japanese war; (13) Chinese Republic; (14) the new French Colonial Empire; (15) Italy and Germany as colonizing powers; (16) the passing of the Mohammedan powers—Turkey, Egypt, Persia, Morocco; (17) connection of these movements with European rivalries; (18) expansion as a factor in leading to the war. The advantage of a great deal of scattered reading makes access to a fair library desirable. Mj. ASSISTANT PROFESSOR SCOTT.

15. Europe in the Twentieth Century: the Historical Background of the Great War (C16).—This course includes (1) a brief study of the outstanding features of the political, social, and economic organization of each of the leading countries of Europe; (2) the conflict of interests due to rival nationalistic ambitions, particularly in the Near East and Central and Southeastern Europe; rivalry for trade and the exploitation of natural resources, especially in Morocco and Asia Minor; (3) the armed peace resulting from all these factors, the origin of the Triple Alliance, and the development of the Triple Entente; (4) the crises since 1904 in the Near East and Africa; (5) the immediate occasion of the war and the responsibility for precipitating it; (6) the widening of the area of conflict, the definition of the issue of autocracy against democracy; (7) the war and neutral rights, with special reference to the United States; (8) some necessary conditions of a permanent peace. Mj. ASSISTANT PROFESSOR SCOTT.

16. History of England to the Accession of the Tudors.—Early Britain, its Romanization, the settlements of the invading German tribes, the struggle for supremacy, the union of England under Wessex, the Norman Conquest, the struggle of the people for constitutional rights, civil and foreign wars, and the beginning of the Renaissance in England will be studied. Mj. Dr. Fox.

17. England from Henry VII to Edward VII (1485–1910).—While a general view of political policy, foreign and domestic, is the chief aim of the course, special attention is given to such important topics as the growth of Parliament, of democracy and imperialism, and considerable stress is laid on religious, economic, and social movements. Mj. Dr. Fox.

18. Colonial Period (1607–1783) (E4).—This course deals briefly with the period of discovery but more in detail with the origin and development of political, social, and economic institutions. The chief events of colonial history are considered with especial reference to the relations between the English colonies and

the mother-country and the economic and political causes leading up to the Revolution. Other topics are: the struggle for the control of North America by the French and English and the peace of 1763; the territorial, political, and economic condition of the English colonies in 1763; the new policy of the English government; the development of colonial opposition; the constitutional and philosophical arguments on both sides; the beginning of hostilities; the Declaration of Independence; the progress of the war; Congress as a governing body; the Loyalists; French and Spanish intervention; Washington's triumph; the preliminaries and terms of peace of 1783. Mj. Dr. Fox.

19. The Formation and Growth of the Nation (1783-1829) (E5).—The following topics are considered: conditions following the Revolution; government under the Articles of Confederation; adoption of early state constitutions; organization of western territory; interstate controversies; problems of diplomacy and foreign trade; violations of the treaty of peace; paper money; Shay's Rebellion; the Constitutional Convention; analysis of the Constitution; ratification; organization of the national government; development of parties and of the cabinet; establishment of the financial system; the political revolution under Jefferson; international relations; internal improvements; Louisiana Purchase; War of 1812; development of the West; rise of the cotton South; the new industrialism; the tariff; Missouri Compromise; the Monroe Doctrine and the rise of Jacksonian Democracy. Mj. Dr. Fox.

20. Sectional Conflict and National Development (1829-1914) (E6).—The course treats the following topics: the democratic revolution and its causes; the material growth and social development of the sections; the sectional treatment of national questions before 1860; steps leading to armed conflict between North and South; reconstruction and readjustments; the growth of the West; the development of Northern industry; the new South; the extension of Federal powers and activities; the growth of reform; domestic questions; commercial expansion and "imperialism"; and foreign relations. Stress is laid upon the period after 1876, extending to the eve of the Great War. Mj. Dr. Fox.

21. Economic History of the United States.—A general survey of the subject aiming to acquaint the student with the economic problems and forces as they developed and shaped the course of American history—a phase frequently neglected, but of fundamental importance for a proper understanding of the history of the American people. Among the main topics treated are (1) colonial agriculture, industry, and commerce; (2) economic aspects of the Revolution; (3) the opening up and settlement of the West; (4) the public lands; (5) internal improvements; (6) railways and waterways; (7) slavery; (8) immigration; (9) the merchant marine; (10) foreign commerce; (11) the development of agriculture; (12) the rise of manufactures; (13) the growth of trusts and trade unions. Prerequisite: course 1 in Political Economy and 4 (A and B) in History, or their equivalents. Mj. Dr. Fox.

For other courses for teachers of History see p. 63.

History of India.—(Cf. description under Comparative Philology 4.)

THE HISTORY OF ART

1. Introduction to the History of Painting (20).—The object of this course is twofold: to increase understanding and enjoyment of paintings as works of art and to furnish an outline of the development of painting as a foundation for more detailed study. The course includes (1) an exposition of general principles of aesthetic excellence in pictorial art and analysis of selected paintings of various periods and schools in accordance with these principles; (2) a survey of the development of painting to the present time. Attention will be concentrated upon representative masterpieces, the history of intervening periods being traced briefly. The analyses are planned to stimulate the student's response to the aesthetic content of paintings so that in the historical work he will not overlook this element. Instruction is based upon reproductions of paintings,

with readings and supplementary material furnished in the lesson-sheets. Prerequisite: a year of college work or the equivalent. Mj. MISS DRISCOLL.

2. Flemish Painting (46).—A course on the development of Flemish painting from the mediaeval miniaturists to Rubens and Van Dyck. The method will be analytical as well as historical. Instruction is based on reproductions of paintings with supplementary readings. Prerequisite: a year of college work or the equivalent. Mj. MISS DRISCOLL.

NOTE.—Related courses are offered in Philosophy, History, Drawing, and Painting.

SOCIOLOGY AND ANTHROPOLOGY

COLLEGE

1. Introduction to Sociology (1).—A study of the phenomena of social life; the basis of society in nature; the social person; social institutions, and social psychology, order, and progress. The course is designed to give an introduction to theoretical and practical sociology and to systematize the reading, observation, and thinking of advanced students. Mj. ASSISTANT PROFESSOR MACLEAN.

2. Social Technology.—A course for social workers and others interested in the dependent, defective, and delinquent classes. The particular work in which the student is interested is taken as a starting-point and an attempt is made to discuss various forms of preventive and constructive social work from the standpoint of the relief visitor, city missionary, alienist, contributor, or lay student, as the case may be. The aim of the course is to give occasion for the reader to analyze, classify, and describe his own environment and his own experience and observation. Prerequisite: course 1 or its equivalent. Mj. ASSISTANT PROFESSOR MACLEAN.

3. Social Groups.—An advanced course in social psychology for students who desire to investigate special problems. Applications of psychology to social organization: the development of the self in primitive peoples; the psychology of nationalism and its application to the problem of Americanization. Prerequisite: "Social Psychology" or an equivalent course. Mj. ASSOCIATE PROFESSOR TALBERT.

4. Modern Immigration.—This course includes a study of the forces at work in movements of population from the Old World to the New; history and statistical studies of immigration into the United States; nationalities involved; their distribution and industrial adjustment; problems presented; legislation; social efforts looking toward better assimilation; Americanization; the status of the immigrant. A course for students, social workers, and all who are interested in this important social problem. Mj. ASSISTANT PROFESSOR MACLEAN.

5. Rural Life.—The aim of this course is to study rural social life in America, with its problem of isolation, and organized efforts for improvement. The course is designed to meet the needs of Young Men's and Young Women's Christian Association secretaries, country ministers, teachers, social workers, and others who are dealing with the problems of rural communities. The country will be studied in its physical, economic, and psychological aspects with a view to a thorough understanding of rural life, a discovery of needs and existing efforts to meet these, and suggestions for further improvement. Mj. ASSISTANT PROFESSOR MACLEAN.

6. Problems of Industry.—A course designed for the discussion of some of the vital questions in American industrial life, including (1) the labor of women and children; (2) methods of settling disputes; (3) insurance against accident; (4) the improvement of physical conditions in factories; (5) efforts to render workers more efficient. The work will be conducted by means of textbooks, reports, and special studies. Prerequisite: course 1 or its equivalent. Mj. ASSISTANT PROFESSOR MACLEAN.

7. History of the Social Reform Movement.—In this course a study is made of the social reform movement in England and America during the last century as it manifested itself in legislation and education for the working classes, better means of providing relief for the needy, and the extension of opportunities for a better life to all. Significant movements and prominent personalities will be studied. Prerequisite: course 1. Mj. ASSISTANT PROFESSOR MACLEAN.

8. General Anthropology (80).—An introductory course treating of the origin, antiquity, distribution, and early occupations of man and of the sources of language, religion, the arts, and social relations. The student must consult the instructor before registering. Mj. ASSOCIATE PROFESSOR STARR.

9. Japan (101).—A general view of Japan, past and present, is sought. Especial attention is given to industrial art and religion. The student must consult the instructor before registering. Mj. ASSOCIATE PROFESSOR STARR.

GRADUATE

10. Principles of Collective Behavior.—An introduction to the study of society and social problems. This course is designed to make the student familiar with the concepts which investigators of social life in various fields have found useful in analyzing and describing the fundamental processes of community life. The point of view represented by the course is that human nature as distinguished from original nature is the product of human association. The original work of the student is organized from the standpoint of the interests of the teacher, the minister, the social worker, or others with problems requiring sociological interpretation. Mj. ASSOCIATE PROFESSOR BURGESS.

11. The Family (5).—The purpose of the course is to investigate the problems of the modern family from the standpoint of the personal development of its members and of the "mores" of the community. The following topics will be considered: (1) the natural family; (2) the institutional family; (3) the home; (4) disorganization and disintegration; (5) the family and the community; (6) the future of the family. As far as practicable the instruction will be based upon case-studies made by the individual student and upon an analysis of current ideals of family life as reflected in modern literature. Prerequisite: course 10. Mj. ASSOCIATE PROFESSOR BURGESS.

12. The Negro in America (43).—The course is intended as an introduction to methods of investigation in the field of racial psychology. It will seek to define the problems and outline a method and a point of view for investigating them. Attention will be directed especially to effects, in slavery and in freedom, of (1) the contacts of the white and the black races; (2) the ensuing processes of amalgamation, assimilation, and racial competition; (3) the rôle of the mulatto; (4) the social and political effects of isolation and prejudice; (5) the growth of race consciousness in the Negro; and (6) the evolution of a biracial system of social control. The books required for reference in this course can be borrowed by students to whom they are not otherwise accessible upon the payment of the cost of transportation. Prerequisite: course 10. Mj. PROFESSOR PARK.

13. The Social Survey (36).—An application of current methods of social investigation to local community problems. The student is expected (1) to make an inventory of the outstanding problems of his local community, i.e., neighborhood, town, or rural community; (2) to investigate the interrelations of the problems noted; (3) to assess the relative actuality of each problem or group of problems, i.e., estimate the urgency as well as the feasibility of an investigation of each case; (4) to prepare a plan of the community, (a) outlining the economic organization, (b) locating social institutions and the natural groups, i.e., the racial, occupational, recreational, religious, and residential groups. Prerequisite: course 10. Mj. PROFESSOR PARK.

14. Field Studies (43b).—This course is designed to provide direction and suggestion either (1) for special research or (2) for a community survey. Credit for the course depends upon the submission and acceptance of a satisfactory report upon an investigation made under the direction of the instructor. The

approval of the instructor of the plan of the community survey is contingent upon the success of the student in organizing a local group to participate in the study of community problems. Arrangements may be made for expert assistance in the investigation of special problems if required. Prerequisite: course 10. Mj. PROFESSOR PARK AND ASSOCIATE PROFESSOR BURGESS.

HOUSEHOLD ADMINISTRATION

1. House Sanitation (42).—This course offers a comprehensive and practical study, based on scientific principles, of the sanitary aspects of the home. Recent changes in sanitary theory and practice are especially emphasized. Among the topics treated are the choice of building site, construction and care of cellar, drainage, plumbing, heating, lighting, ventilation, furnishing, and cleaning. Mj. PROFESSOR TALBOT.

2. Foods and Dietaries (43).—A course in practical dietetics covering the study of the composition of foods, methods of conservation, scientific principles of preparation, and their combination in dietaries from an economic and physiological standpoint. Prerequisite: high-school chemistry and physics. Mj. PROFESSOR TALBOT.

3. The Modern Household (40).—This course will consider the order and administration of the house with a view to the proper appointment of the income and the maintenance of suitable standards. Changes in household activities and organization as affected by modern economic and social conditions will be studied. Mj. PROFESSOR TALBOT.

COMPARATIVE RELIGION

(For courses see p. 71)

ORIENTAL LANGUAGES AND LITERATURES

(For courses see pp. 71 ff.)

NEW TESTAMENT AND EARLY CHRISTIAN LITERATURE

(For courses see pp. 74 ff.)

COMPARATIVE PHILOLOGY, GENERAL LINGUISTICS, AND INDO-IRANIAN PHILOLOGY

1. Elementary Sanskrit (10).¹—The aim of the course is to give the student a thorough grounding in the essentials of Sanskrit grammar, the principles of which are illustrated by constant translation from Sanskrit into English and from English into Sanskrit. It is designed as an introduction to the selections from classical Sanskrit in Lanman's *Reader*, which the student should then be prepared to read rapidly by himself. No attempt is made to teach comparative philology in this course. Mj. ASSOCIATE PROFESSOR CLARK.

2. The Bhagavad Gītā.¹—The Sanskrit text of this most famous of all Hindu religious books will be read and some attention will be paid to the content and the development of the doctrines contained in it. Mj. ASSOCIATE PROFESSOR CLARK.

3. History of Sanskrit Literature (13).¹—The aim of this course is to give a brief survey of the literature of India—a literature of no small intrinsic value and one which offers much that is of interest to the occidental student. An effort will be made to gain some intelligent appreciation of the social and intellectual conditions under which this literature was produced and to form some conception of its place in the literature and thought of the world. No knowledge of Sanskrit or Pali is necessary, but a large amount of reading in translations will be required. Mj. ASSOCIATE PROFESSOR CLARK.

¹ Registrations accepted after January 1, 1922.

4. History of India (16).¹—This course will trace the political history of India and the parallel social development from the time of the Rig-Veda to the Battle of Plassey in 1757. The formation of the Mongol Empire in Central Asia will be traced in order to give a background for the treatment of the Mogul period in India. Mj. ASSOCIATE PROFESSOR CLARK.

5. The Religions of India (14).¹—The aim of this course is to give a brief outline of the mythology and religion of the Vedas and an account of the three great Hindu religions—Brahmanism, Buddhism, and Hinduism. A knowledge of these is absolutely essential to the student of comparative religion. Mj. ASSOCIATE PROFESSOR CLARK.

6. Hindu Philosophy (15).¹—The course will trace the growth of philosophic thought in India from the Rig-Veda through the Upanishads to the six great philosophical systems. Especial attention will be paid to the Vedanta, the Samkhya, and the Yoga systems. Mj. ASSOCIATE PROFESSOR CLARK.

THE GREEK LANGUAGE AND LITERATURE

HIGH SCHOOL

1. Elementary Greek.—In two Majors is offered the equivalent of the first year of high-school work in Greek. The writing of Greek is required from the beginning.

A.—White's *First Greek Book*, Lessons 1–60. These lessons include the commonest noun and adjective declensions, the Omega system of conjugation, some fundamentals of syntax, connected reading lessons epitomizing the story of the *Anabasis*, and a vocabulary of 600 common Greek words. Mj.

B.—(1) White's *First Greek Book*, Lessons 61–80, including a study of the Mi system of conjugation, reading lessons, continuing the *Anabasis* story, and an additional vocabulary of 250 words; (2) the *Anabasis* of Xenophon, Book i, chaps. 1–3. These lessons call for constant review of the material studied in the *First Greek Book*. Mj.

MR. NELSON.

2. Xenophon: *Anabasis*.

A. Books i. chap. 4—ii, chap. 4 (about fifty pages).—Exercises in writing Greek based upon the text. Mj.

B. Books ii, chap. 5—iv (about ninety pages).—Greek composition, including a topical treatment of syntax. Occasional tests in translation at sight. Mj.

MR. NELSON.

3. Homer: *Iliad*.

A. Books i–iii.—An introductory study of the *Iliad* in which the literary and linguistic aspects of the poem and the Greek life of the Homeric period are considered. Particular attention is paid to prosody and the peculiarities of epic dialect and syntax. Mj.

B. Books vi–xxii (*passim*).—The selections read in this course are chosen with a view to giving the student an idea of the plot of the *Iliad* as a whole. They include parts of Books vi, ix, xv, xvi, xix, and xxii. The grammar, dialect, and prosody are reviewed, and the text is made the basis of a general literary and elementary critical study of the *Iliad*. Mj.

MR. NELSON.

COLLEGE

Courses 4, 5, 6, and 7 are designed for students who begin Greek *after entering college*. They are coextensive with the corresponding residence courses, are conducted in the same manner, and are intended to prepare the student for the advanced required work. The first three Majors are equivalent to the first year's work in college.

4. Elementary Greek (1).—The purpose of this course is to give a mature person or one who has had four years of good high-school training sufficient drill

¹ Registrations accepted after January 1, 1922.

in the most common forms and principles of syntax of the Greek language. After a very few lessons the *Anabasis* is begun, and throughout the entire course attention is paid to the writing of simple sentences in Greek. Mj. MR. NELSON.

5. Xenophon: *Anabasis* (2).—The *Anabasis* is continued from the point reached at the end of course 1, and six more chapters from Book i, with selections from Books ii and iii, are read. A systematic study of syntax is begun, with frequent exercises in prose composition. Mj. MR. NELSON.

6. Xenophon: *Anabasis* (continued) (3).—Books iv, v, vi, and selections from vii are read in this course, and the systematic study of syntax begun in course 2 is completed. The literary style of Xenophon and the historical content of the *Anabasis* are also subjects of study. Mj. MR. NELSON.

7. Homer: *Iliad* (4).—This is an introductory course to the study of Homer. The forms and syntax of the epic dialect are contrasted with those of the Attic dialect, and the essentials of prosody are presented. Selections from the *Iliad*, amounting to about 2,000 lines, are read. The course includes a literary study of this epic, with its pictures of life in the Homeric period. Mj. MR. NELSON.

8. Plato: *Apology* and *Crito* (5).—In connection with these writings short selections from Plato's *Symposium* and *Phaedo* and from Xenophon's *Memorabilia* will be read to furnish a basis for the study of the life and philosophy of Socrates as interpreted by Plato and Xenophon. The course includes a brief outline of Plato's life and works and a discussion of the syntax and idioms of Plato. Mj. MR. NELSON.

9. Homer: *Odyssey* (Books i, v–xii, and selections from Books ii and iv) (6).—This course aims chiefly at enabling the student to translate Homer fluently and with appreciation. It also includes a review of epic dialect and syntax and a study of Homeric life and antiquities. Mj. MR. NELSON.

10. Introduction to Greek Tragedy (7).—Sophocles' *Antigone* and Euripides' *Medea* are read. Attention is given to the various problems connected with these plays, to the character delineation, and the method of presentation. Colateral reading is assigned on the history of Greek tragedy and theater. Mj. MR. NELSON.

11. Prose Composition (16).—The course offers to teachers and others an opportunity to improve themselves in Greek syntax, sentence structure, and the use of particles. The exercises are graded from simple narrative passages in the style of Xenophon to more difficult selections in the style of Plato and Demosthenes. Mj. PROFESSOR BONNER.

12. Lysias: *Selected Orations* and Demosthenes: *Philippics* (17).—A general introduction to Attic oratory. The literary characteristics of the authors studied and the public life and the history of their times are considered. Students should consult the instructor before registering. (Informal.) Mj. MR. NELSON.

13. Demosthenes: *De Corona* (23).—This oration, admitted to be the greatest one of ancient times, will be studied chiefly from the literary point of view. Students should consult the instructor before registering. (Informal.) Mj. MR. NELSON.

14. Herodotus: *Historiae* (Books vii–viii) (39).—The reading covers the invasion of Xerxes, including the battle of Salamis. The history of this period and the language and style of the author are studied. Mj. MR. NELSON.

15. Aristophanes (26).—An introduction to the study of Greek comedy; intensive study of two plays, probably the *Clouds* and *Birds*; the language and technique of Aristophanes; the external environment and inner spirit of Athenian comedy. Students should consult the instructor before registering. (Informal.) Mj. MR. NELSON.

Members of the Greek Department will endeavor to arrange informal courses for students who are prepared to do work of an advanced nature whenever practicable. Professor Shorey will occasionally guide by correspondence the work of advanced students who propose to attend the University.

NOTE.—Related courses are offered in Philosophy and General Literature.

THE LATIN LANGUAGE AND LITERATURE

HIGH SCHOOL

1. Elementary Latin.—In two Majors is offered the equivalent of the first year of high-school work in Latin. Starting with the rudiments, the aim is to acquaint the student with all the regular forms and common constructions found in Caesar's *De Bello Gallico* and to give him a large vocabulary.

A.—Includes all the declensions of nouns and adjectives, all the conjugations of regular verbs, and the simplest rules of syntax. Mj.

B.—Provides: (1) a review of verb forms, the conjugation of the irregular verbs, and the more difficult constructions in syntax, and (2) the study of Caesar: *De Bello Gallico*, Book i, chaps. 1–30, covering the Helvetian War. Mj.

MISS PELLETT OR MRS. WOODWORTH.

2. Caesar: *De Bello Gallico*.

A. Book ii.—This course is intended for students who have completed course 1, but who have had no other practice in translation. Special attention is given to a review of forms and syntax. Exercises in prose composition based upon the text form a part of each lesson. Mj.

B. Books iii–iv.—Continues the above. The more difficult Caesarian constructions are carefully studied, and further practice is given in prose composition. Mj.

C. Book i.—The latter part of Book i, the war with Ariovistus, is read. While forms, syntax, and prose composition continue to be studied, indirect discourse receives special attention. M.

MISS PELLETT OR MRS. WOODWORTH.

3. Cicero: *Orationes*.

A. *In Catilinam*, i–iv (1A).—This course includes translation, a review of forms and of more difficult constructions, exercises in Latin composition based upon the portion of text assigned in each lesson, and the history of the period. Mj.

B. *Pro Lege Manilia* and *Pro Archia* (1B).—Continues A and includes a careful study of the literary style of Cicero, of all historical references, and exercises in prose composition based upon the portion of text assigned in each lesson. Especial attention is given to translating into good English. Mj.

MISS PELLETT OR MRS. WOODWORTH.

4. Vergil: *Aeneid*.

A. Books i–ii (2A).—The work includes a study of prosody, word derivation, constructions peculiar to the poets, and the more common rhetorical figures. Mj.

B. Books iii–vi (2B).—Continues A and lays emphasis upon elegance of translation, the mythology, and the literary style of Vergil. Mj.

MISS PELLETT OR MRS. WOODWORTH.

5. Prose Composition Based on Caesar.¹—This course affords (1) practice in writing Latin in connected passages based on Caesar's *De Bello Gallico*; (2) a thorough review of grammatical forms and constructions found in the *De Bello Gallico*; (3) a careful study of synonyms. As the course is informal, special attention can be given to any subject in which the student is deficient. M.

6. Prose Composition Based on Cicero.¹—Like course 5, using the orations as a basis. M. MISS PELLETT OR MRS. WOODWORTH.

NOTE.—The courses 1–6 are intended for three classes of students: (1) those who are preparing to enter college; (2) those who wish to study Latin for their own benefit; (3) teachers of Latin who from the topics and questions in each lesson can receive suggestions for their own work, e.g., the points to be emphasized at different stages in Caesar, Cicero, and Vergil.

COLLEGE

7. Cicero: *De Senectute* (4, first half).—The entire essay is read with studies in syntax and exercises in prose composition based upon the text of each lesson. M. MISS PELLETT OR MRS. WOODWORTH.

¹ This course commands no credit.

8. Terence: *Phormio* (4, second half). This play, as a specimen of the highest development of Roman comedy, is carefully studied with regard to composition, presentation, etc. Attention is also given to vocabulary, metrical treatment, and ante-classical forms and constructions. M. ASSISTANT PROFESSOR BEESON.

9. Livy (5).—The twenty-first book and a large part of the twenty-second, describing Hannibal's expedition against Rome up to Cannae are read, with accompanying studies in literary style and syntax and exercises in prose composition, based in each case upon the portion of text assigned in each lesson. Mj. ASSISTANT PROFESSOR BEESON.

10. Horace: *Odes*. Books i-iii (6).—This course includes commentary upon the details of each ode, syntactical, historical, illustrative, etc.; translations, analysis of thought, and general interpretation, and a study of the metrical form. A list of general topics, material for the study of which is to be found in the odes, is presented at the outset, and the student is expected to select one of these for his especial study. Mj. PROFESSOR MILLER.

11. Advanced Prose Composition (44).—The course offers to teachers and others an opportunity to perfect themselves in Latin syntax and in sentence and paragraph structure. The exercises are graded from simple passages in the style of Caesar to more difficult extracts in the style of Cicero. Prerequisite: three Majors of college Latin. Mj. ASSISTANT PROFESSOR BEESON.

12. Cicero: *De Amicitia*.—Primarily a translation course, with questions based on subjects suggested by the text. The lessons will afford drill in syntax and some practice in the writing of Latin. M. ASSISTANT PROFESSOR BEESON.

13. Plautus (20).

A. *Captivi*.—This course will deal especially with the linguistic side of Plautus. The vocabulary and scansion will be studied and ante-classical forms and constructions noted. Good idiomatic translation will be required. M.

B. *Trinummus*.—Here the literary side will be emphasized. The course will deal especially with Plautus' style, plot, and delineation of character. As in the first minor, much attention will be paid to translation. M.

ASSISTANT PROFESSOR BEESON.

14. Tacitus: *Agricola* and *Germanica* (11).—In the reading of these works both their historical importance and their literary merits are brought out. The course is an introduction to the language and style of Tacitus. Mj. PROFESSOR BEESON.

15. Cicero: *Epistulae* (24).—A study of the character and career of Cicero from the evidence afforded by the material contained in one hundred selected letters and from supplementary historical and biographical sources. The course also deals with the peculiarities of epistolary Latin and with the general subject of letter-writing in ancient Rome. Mj. ASSISTANT PROFESSOR BEESON.

16. Ovid (10).—Selections from *Epistulae*, *Amores*, *Fasti*, *Metamorphoses*, and *Tristia*. The object of the course is to make a general study of the life and works of Ovid and of his place in Roman literature. (Informal.) Mj. PROFESSOR MILLER.

17. Pliny the Younger: *Letters* (36).—Reading of selected letters, with some observation of the peculiarities of Silver Age Latin. The course will afford a study of Roman life in early imperial times. Mj. ASSISTANT PROFESSOR BEESON.

18. Horace: *Satires and Epistles* (30).—Selected satires and epistles are carefully read and analyzed, with particular regard to argument, character portrayal, style, and their place in literature. (Informal.) Mj. PROFESSOR MILLER.

19. Seneca: *Tragedies* (33).—The tragedies of Seneca will be studied for their style, as characteristic of the period, and their content; they will be compared with the corresponding Greek dramas, and their influence upon English drama will be touched upon. Three plays will be read from the Latin text and the remainder from an English translation. (Informal.) Mj. PROFESSOR MILLER.

20. Horace and Persius: *Satires*.—A brief review of the predecessors of Horace in the field of satire, a reading of selected satires of Horace and Persius with a study of the characteristic features of each. (Informal.) Mj. PROFESSOR MILLER.

21. Juvenal (38).—The object will be to present, through the study of selected satires, a picture of life and manners at Rome under the Early Empire. (Informal.) Mj. PROFESSOR BEESON.

22. Roman Conception of the Immortality of the Soul (25).—This course is the study of a topic and is based for material upon a variety of authors: Cicero's *Tusculan Disputations* i, *De Senectute*, *De Amicitia*, *Epistulae*; Vergil's *Aeneid*, Book vi; Horace's selected odes; Ovid, Seneca, Persius, etc. (Informal.) Mj. PROFESSOR MILLER.

23. Training Course for Teachers of Latin.—The object of the course is to give the teacher working alone and often at a distance from authorities an opportunity to appeal for assistance and advice along any lines connected with his teaching of Latin. Naturally there are some subjects which nearly all teachers find it profitable to take up in a somewhat formal way, e.g., pronunciation, translation, metrical reading, composition, etc. In addition to these, each teacher will have his own problems to discuss. The course is designed to meet these general and individual needs. (Informal.) Mj. PROFESSOR MILLER.

24. Teachers' Training Course in Vergil (46).—This course will cover the first six books of the *Aeneid* from the point of view of the actual needs of the high-school teacher of Vergil; first in respect to the acquisition of the material and second in respect to the presentation of the material to the class. Mj. PROFESSOR MILLER.

Members of the Latin Department will endeavor to arrange informal courses for students who are able to do work of an advanced nature, whenever practicable.

ROMANCE LANGUAGES AND LITERATURES

1. Elementary French.—In two Majors is offered the equivalent of the first year of high-school work in French. The writing of French is required from the beginning.

A(1).*—The aim is to acquaint the student with the essentials of French grammar, to enable him to turn short English sentences into idiomatic French and vice versa, and to acquire some ability in translation. Mj.

B(2).*—This course (1) reviews and extends considerably the knowledge of grammatical principles and the irregular verbs acquired in the preceding Major; (2) fixes it by means of exercises in composition; and (3) through drill in translation develops in the student ability to read easy French at sight. Mj.

ASSOCIATE PROFESSOR NEFF.

2. Intermediate French (3).*—The work of this course follows immediately upon that of "Elementary French—B." The books read deal with social and political life in France. The exercises in composition take the form sometimes of a résumé of the text read, sometimes of reproduction in French of exercises based on the text. The grammar is studied inductively. Mj. ASSOCIATE PROFESSOR NEFF.

NOTE.—College credit, "limited" (cf. p. 12), is allowed for the above three Majors only after the following course, "Advanced French," has been finished.

3. Advanced French (4).—Idioms, synonyms, diction; (a) systematic review of elementary French grammar; (b) syntax; (c) reading: Mérimée, *La Chronique de Charles IX*; (d) composition based on the reading. Prerequisite: course 2. Mj. MR. SCHUTZ.

4. French Reading and Composition (5).—A study of the more difficult idioms and uses of the moods and tenses, with attention to some of the literary questions which arise in the study of the following novels: Anatole France, *Le Crime de Sylvestre Bonnard*; Honoré de Balzac, *Eugénie Grandet*; George Sand, *La Mare au Diable*. Prerequisite: course 3. Mj. MR. SCHUTZ.

5. **Advanced French Reading and Composition (6).**—Reading of the following dramas: V. Hugo, *Hernani*; E. Augier, *Le Gendre de M. Poirier*; A. Dumas, fils, *La Question d'Argent*; E. Rostand, *Cyrano de Bergerac*, with consideration of the grammatical and literary aspects of the texts. Prerequisite: course 4. Mj. MR. SCHUTZ.

6. **Cours de Style (12).**—Principes généraux, exercices pratiques de composition française. Prerequisite: 6 Majors of French or the equivalent. Mj. MR. SCHUTZ.

7. **Introduction to the Study of French Literature (19, 20).**—A general survey of French literary activity from 1600 to 1850. Prerequisite: 6 Majors of French or the equivalent. Mj. ASSOCIATE PROFESSOR DAVID.

8. **Molière and the French Comedy in the Seventeenth and Eighteenth Centuries.**

A.—*Molière and His Contemporaries (14).*—(Seventeenth century.) Mj.

B.—*Molière's Successors (14A).*—(Eighteenth century.) Mj.

These two majors include a study of the lives of the principal authors, their influence on the theater, with intensive study of the following plays: (a) Corneille, *Le Menteur*; Molière, *Les Précieuses Ridicules*, *Tartuffe*, *Le Misanthrope*, *L'Avare*, *La Critique de l'Ecole des Femmes*, *Le Bourgeois Gentilhomme*, *Les Fourberies de Scapin*, *Don Juan*, *Les Femmes Savantes*, *Le Malade Imaginaire*; (b) Regnard, *Le Légataire Universel*, *Le Joueur*, *Les Folies Amoureuses*; Lesage, *Turcaret*; Marivaux, *Le Jeu de l'Amour et du Hasard*, *Le Legs*, *L'Épreuve*, *Les Fausses Confidences*; Destouches, *Le Philosophe Marie*; Gresset, *Le Méchant*; Beaumarchais, *Le Barbier de Séville*, *Le Mariage de Figaro*. This is intended to familiarize the student with the masterpieces of classical comedy. Constant comparison will be made between the language of these writers and that of today, and the most unusual constructions will receive consideration. The work is conducted wholly in French. Prerequisite: course 7 or its equivalent.

ASSOCIATE PROFESSOR DAVID.

9. **Molière.**—A critical study of all the plays of the great writer. All the reports must be written in French. This secures to the student a thorough course in advanced French composition as well as a comprehensive knowledge of Molière's work. Prerequisite: 9 Majors of French. Mj. ASSOCIATE PROFESSOR DAVID.

10. **Problems of Teaching French (21).**—The object of this course is to discuss the various problems that confront the teacher of French in secondary schools: (1) pronunciation; (2) choice and presentation of grammatical material; (3) oral practice; (4) the teaching of composition; (5) the choice and treatment of reading texts; (6) the selection of the lesson book; (7) the question of method. Students will be expected to prepare reviews of reading and grammar texts, to report on their observation of school or elementary college classes, and, if engaged in teaching French, to make careful reports of what is done in their classes. They will also be expected to acquaint themselves with several of the more important treatises on the subject, and with the current views of educational psychology that bear on the teaching of languages. Mj. PROFESSOR COLEMAN.

11. **Old French (elementary course) (76).**¹—The importance of some historical knowledge of French as a part of the teacher's equipment is generally recognized. Old French is also an indispensable language for research in the mediaeval literatures. This course has been taken to advantage by students looking forward to resident graduate work. A reading knowledge of modern French is necessary, and some knowledge of German and Latin is desirable. Texts: *La Chanson de Roland*; *Aucassin et Nicolette*; *Erec et Enide*; *La Représentation d'Adam*. For reference: Nyrop, *Grammaire historique de la langue française*, Vols. I-IV. The student should consult the instructor before registering. Mj. PROFESSOR JENKINS.

¹ Available January 1, 1922.

12. Elementary Italian (B1).—This course is devoted chiefly to the study of Italian grammar. It includes practice in composition and in translation. The lessons are based on Grandgent's *Italian Grammar* (new edition, with Wilkins' *Lessons and Exercises*), Wilkins' *Notes on Italian Grammar*, and Wilkins' and Altrocchi's *Italian Short Stories*. Mj. Miss SCHOBINGER.

13. Elementary Spanish.—In two Majors is offered the equivalent of the first year of high-school work in Spanish. The writing of Spanish is required from the beginning.

A (C1).—This course includes a study of nouns, adjectives, pronouns, and the regular verbs and calls for the reading of about 125 pages of easy Spanish prose. Mj.

B (C2).—Continues A. Special attention is given to the irregular verbs and the subjunctive. The reading of about 160 pages of Spanish and exercises in composition are required. Mj. Mrs. NORTUP.

14. Intermediate Spanish (C3).—This course calls for: (1) translation from English into Spanish of connected prose based for the main part on Spanish models, special attention being paid to points of syntax and idiomatic expression; (2) reading and translating a Spanish novel of some 250 pages in length. Mj. Mr. CASTILLO.

15. Advanced Spanish (C4).—Composition of a more independent nature is required, attention is given to diction and style as well as to syntax. The reading consists of about 300 pages of difficult prose, part of which is designed for intensive reading, and the remainder, reading for content only. Mj. Mr. CASTILLO.

16. Commercial Spanish (C4).—Reading of about 300 pages of commercial and journalistic matter, with exercises in translating from English into Spanish. Study of business letter-writing with special attention to Spanish-American style of correspondence, advertising, banking, and book-keeping forms. Prerequisite: at least two years of thorough high-school training in Spanish. A person who has credit for "Advanced Spanish" (C4) may not obtain additional credit for this course. Mj. Mr. LEVIN.

17. Modern Spanish Novels (C15).—This course is intended to fit students for the appreciative reading of the best modern Spanish literature. It includes the careful reading of about 450 pages of fairly difficult modern Spanish prose and verse, including *La Familia de Alvareda* by Fernán Caballero, *José* by Palacio Valdés, and *el Sombrero de Tres Picos* by Alarcón, special attention being directed to (1) the more difficult points of syntax; (2) translation into Spanish of selections based on the reading; and (3) abstracts of the reading assignments to be written in Spanish. If the student has read these books it may be possible to substitute others. Prerequisite: course 15 or its equivalent. Mj. Mrs. NORTUP.

18. Don Quixote.—This is mainly an interpretative and critical reading course, divided between the first part and the second part of *Don Quixote*. The life of Cervantes and the literary movement of his time will be noticed. In the reading the peculiarities of syntax, style, and diction, as compared with later Spanish, will be studied. A bibliography of the more important works will be given, enabling the student who may wish to make a more extensive study of the author to do so. Prerequisite: course 17 or its equivalent. Mj. Mrs. NORTUP.

GERMANIC LANGUAGES AND LITERATURES

1. Elementary German.—In two Majors is offered the equivalent of the first year of high-school work in German. The writing of German is required from the beginning.

A (1).—This course aims to ground the student in the essentials of German grammar through the reading of easy idiomatic German and exercises in which special attention is given to the construction of the verb, noun, and adjective. Mj.

B (2).—Continues and extends A to include the passive voice and the subjunctive, and calls for extensive reading of easy prose. Mj.

ASSISTANT PROFESSOR NOÉ.

2. Intermediate German (3).—Devoted primarily to the reading of easy modern prose and incidentally to a rapid review of elementary German grammar. Attention will be directed constantly to German idiom, and from time to time the student will be required to reproduce in German what he has read. In these free reproductions emphasis will be laid upon word-order and sentence-structure. Mj. ASSISTANT PROFESSOR NOÉ.

3. Elementary Prose Composition (4).—Through the reproduction of ordinary narrative English into German and by means of original composition the student is led to appreciate the difference between English and German idiom. The course also provides a comprehensive review of the grammar and syntax of the language. Mj. ASSISTANT PROFESSOR NOÉ.

4. German Idioms and Synonyms (5).—The course comprises the study of (1) the method of word-formation; (2) grammatical idioms; (3) synonyms together with a thorough review of syntax. Attention is given to German-English cognates. Composition based upon selected modern German prose affords the basis of instruction. Mj. ASSISTANT PROFESSOR NOÉ.

5. Modern German Plays (6).—This is primarily a reading course. It aims at the acquisition of a working vocabulary for conversation in German on the basis of the language of the dramas read. Mj. ASSISTANT PROFESSOR NOÉ.

NOTE.—The following three majors have been organized to accommodate students whose primary interest is the acquisition of a technical vocabulary and the ability to read scientific German. Such persons may substitute course 6 for course 3, course 7 for course 4, and course 8 for course 5. A person who has credit for course 3 or 4 or 5 cannot obtain additional credit for the alternative courses 6, 7, and 8.

6. Elementary Scientific German (Sc. 4).—This course has the same prerequisites as course 3. The reading selections are taken from German authors on biological, chemical, and physical topics. Mj. ASSISTANT PROFESSOR NOÉ.

7. Intermediate Scientific German (Sc. 5).—This course has the same prerequisites as course 4 but is devoted to the reading of scientific prose of a more advanced character and of greater linguistic difficulty than are the selections studied in course 6. Mj. ASSISTANT PROFESSOR NOÉ.

8. Advanced Scientific German (Sc. 6).—This course has the same prerequisites as course 5. It requires the reading of a certain amount of scientific German research literature which the student may select along the lines of his own scientific specialty. Mj. ASSISTANT PROFESSOR NOÉ.

9. Deutsche Aufsätze (11).—An advanced course in composition including a study of German synonyms, the more difficult principles of syntax, and the elements of style. Mj. ASSISTANT PROFESSOR NOÉ.

10. Introduction to the Study of German Literature (40A, B, and C).—The first required course in German literature. Through a critical study of representative masterpieces and supplementary readings the student is introduced to the whole range of the literature and furnished some knowledge of the notable movements in it. The course is divided into two parts, either of which may be taken without the other. Prerequisite for either Major: course 9 or its equivalent.

A.—This covers the field of German literature from the earliest times through Lessing. The selections from Old High German and Middle High German literature will be read in modern German translations. Mj.

B.—This is a continuation of A and follows the same general plan. The works to be studied are chosen from Goethe, Schiller, Kleist, Heine, Eichendorff, Grillparzer, Hauptmann, and Sudermann. Mj.

ASSISTANT PROFESSOR NOÉ.

11. Aufsätze und Stilübungen (61).—A sequent to "Deutsche Aufsätze." It includes a study of masterpieces of the best German stylists and the criticism

of graded themes. The theme subjects deal with German life, history, and literature. The aim of the course is to develop the student's ability in essay-writing. Prerequisite: course 9 or its equivalent. Mj. ASSISTANT PROFESSOR NOÉ.

12. Deutscher Satzbau und Stil (101).—The course aims to develop an instinct for idiom and an active sense of the niceties of style by discussing, varying, and independently reproducing passages from great stylists of the nineteenth century. Prerequisite: course 11 or its equivalent. Mj. ASSISTANT PROFESSOR NOÉ.

13. Gothic (103).—A consideration of Gothic phonology, morphology, and syntax in connection with the reading of selections from the Bible translation of Wulfila. Intended as a review course or for those who have had philological training. Mj. PROFESSOR WOOD.

14. Old High German (104).—The reading of selections from Braune's *Althochdeutsches Lesebuch* with reference to the same author's *Abriss der althochdeutschen Grammatik*. This course is a natural sequent of course 13. Prerequisite: course 13 or its equivalent. Mj. PROFESSOR WOOD.

15. Old Saxon (109).—The work will be based on Holthausen's *Altsächsisches Elementarbuch*. Open to those who have had courses 13 and 14 or their equivalents. Mj. PROFESSOR WOOD.

16. Old Norse-Icelandic Prose (147A).—The purpose of the course is to offer students who have had a beginning course in Icelandic an opportunity to learn to read Icelandic prose readily. An annotated saga text providing about 300 pages of reading matter is selected, and the student is asked to read, in addition, on the antiquarian and literary problems involved. During 1921-22 the *Egils saga Skallagrímssonar* will be read. Zoëga's *Old Icelandic Dictionary* is recommended. Prerequisite: residence course 112 or its equivalent, a beginner's course involving a historical study of the sounds and inflections of the language, and the reading of about 40 pages of Old Icelandic prose. This prerequisite course must itself be preceded by "Gothic." Mj. ASSISTANT PROFESSOR GOULD.

THE ENGLISH LANGUAGE AND LITERATURE

ELEMENTARY

1. English Grammar.—An elementary course in practical English grammar, assuming no technical knowledge of the subject, and intended for students who need instruction or review in the fundamental principles of the language, especially with relation to the correct combination of words in sentences. In some cases this course will be desirable as preparation for the following composition courses. [This course commands no credit; the charge for *tuition* in it is \$19.00 regardless of combination. For "English Grammar for Teachers" see course 35, below.] ASSOCIATE PROFESSOR MARSH.

2. Vocational English.—A course designed to teach what it is most important for a clerk, a stenographer, or a worker in any occupation requiring correct speech and simple writing, to know about practical English. Study of spelling, capitalization, punctuation, and the grammar of the sentence as applied in letter-writing and other simple composition. [This course commands no credit; the charge for it is \$19.00 regardless of combination.] ASSOCIATE PROFESSOR MARSH.

HIGH SCHOOL

3. Preparatory English Composition.—In a series of three Majors the equivalent of the ordinary high-school work in English composition is offered. These three Majors in composition, together with the three in literature numbered 4, below, provide for the three units in English required for entrance to college: the A's for the first unit, the B's for the second unit, the C's for the third unit.

A.—A very simple introduction to English composition, with review of those portions of grammar necessary as a basis for correct sentence-structure and correct formation of words. The student will write simple themes and letters, based largely on his own experience and observation, and will prepare drill exercises of the sort assigned in the first year or so of a good high-school course. Mj.

B.—Somewhat more advanced work in composition with attention to the main principles of rhetoric. Sound paragraphing is considerably emphasized. Mj.

C.—Still more advanced work in composition very definitely preparatory for college English. Mj.

ASSOCIATE PROFESSOR MARSH.

4. Preparatory English Literature.—In a series of three Majors the equivalent of the ordinary high-school study of English masterpieces is offered. The work is designed for students who wish credit for entrance to college, but teachers of English in high schools may gain from it valuable hints for their own teaching of the masterpieces. These Majors are also suited to persons who wish to take up, either for the first time or by way of review, the more simple and concrete phases of the study of literature. Students seeking entrance credits will be somewhat limited in their choice of books for study; those who take the work for help in their teaching may range freely in the lists for college entrance. (For credit see the explanation under course 3, above.)

A.—The simplest masterpieces in both prose and poetry, among those listed "for reading" in the college entrance requirements, are studied. Mj.

B.—A somewhat more difficult group of masterpieces chosen from the list "for reading" are studied. Mj.

C.—The attention is concentrated on the masterpieces listed "for study," with additional choice of a few among the most difficult of those listed "for reading." Mj.

ASSOCIATE PROFESSOR MARSH.

COLLEGE

5. English I (1).*—This is designed to be a full equivalent of the first course in English composition and rhetoric required of all students in residence, and commands corresponding credit. It presupposes the ordinary training in English received in a good high school and represented in a general way by the preceding courses. More detailed study of the principles of rhetoric, as presented in a more advanced textbook, is made, and a higher standard of theme work on a variety of topics, usually chosen (subject to certain limitations) by the student himself, is expected. The emphasis throughout is placed upon writing of the most practical sort. A volume of prose selections is also used. Mj. ASSOCIATE PROFESSOR MARSH.

6. English III (3).—This course is designed to be a full equivalent of the second course in English rhetoric and composition required of all students in residence and commands corresponding credit. The course aims (1) to give training in structure, and (2) to give instruction and practice in the four forms of composition—exposition, argumentation, description, and narration. To these ends a textbook is required, lesson papers must be submitted, and a final examination taken. The written work will consist of six long themes, each from 1,500 to 3,000 words in length, and twelve short themes of from 100 to 200 words each, in addition to exercises based on the textbook. Students may gain admittance to the course by passing creditably course 5 or by submitting to the instructor an original exposition or argument showing ability. Mj. ASSISTANT PROFESSOR HULBERT.

7. English IV.

A. *Exposition—Argument.*¹—Two Majors designed to teach the principles of expository and argumentative writing: English composition as training in logical, constructive thinking.

¹ This course is open to others than graduates of "English III" who can present evidence, in the form of a statement of previous work and original productions, that they are prepared for it.

1 (4B).—The work consists of an analysis of models of exposition; inductive study of definition, analysis, explanation, familiar essays, criticism, reproduction, and the like; and of extensive practice in writing the various forms. Students will be permitted to write in the lines of their individual interests. Mj.

2 (4C).—Work correlative with English IVA-1; consists of a similar approach to the problems of argumentation. The course is designed on the basis of practical logic, involving critical study of logical processes of thinking, handling of evidence, detection of fallacies, and the like. Writing in the fields of the student's interests. Mj. ASSOCIATE PROFESSOR LYMAN.

B. *Story-Writing*.¹—A course of two Majors replacing the single Major entitled "Narrative and Descriptive Writing" as formerly given. It is designed to teach the principles of story-writing with particular reference to the short story. The textbook has been prepared by Mr. Grabo to meet the needs of correspondence-study students.

1 (4A).—Includes an autobiography; exercises to bring out the essentials of narrative; exercises in the point of view; exercises in the study of the unities of action, time, and place; exercises and studies in exposition and preparation; a study of short-story introductions; study of and exercises in character drawing; descriptions of persons and places; a study of the writing of dialogue. Original character sketches, descriptions, themes in dialogue, and several short stories will be demanded in this half of the course. It aims to bring out the fundamentals of story structure and is designed for those who desire to write either short stories or novels. Considerable reading in specified standard novels and short stories is demanded. Mj.

2. Continues 1 and takes up a study of story ideas; construction of plots to illustrate various types of stories; a consideration of titles and the names of characters; a study of suggestion and restraint; a study of unity of tone; a study of the psychology of story-writing. In this Major more attention is paid to the development of plot, and more original work in the short story is expected. Reading of short stories and novels is recommended—a bibliography of these is furnished with the lessons. Prerequisite: English IVB-1; but those who have received credit for "Narrative and Descriptive Writing," the English IVB of preceding years, will be permitted to register for this Major. Mj. ASSISTANT PROFESSOR GRABO.

C. *Journalistic Writing*.¹—Study is made of the New Story, the Book Review, the Editorial, and the Feature Story. The forty lessons constituting the course include (1) critical exercises, and (2) original work upon topics assigned by the instructor or approved by him from lists submitted by the student. A text is used as a basis for a part of the work. The student is expected to study the form of news stories and editorials in at least one good newspaper, to follow current topics in several of the best magazines, and to gather some of the material for his papers (notably the feature stories) from first-hand observation. Mj. ASSISTANT PROFESSOR GRABO.

8. *English V. Magazine Writing*.¹—A course of forty lessons embracing the study and the writing of the Special Article, Literary Criticism, and the Personal Essay. The student will be required to read examples of these forms and to submit analyses of them. A volume of selected essays will serve as a text for the latter part of the course. Mj. ASSISTANT PROFESSOR GRABO.

9. *English VI. Advanced Composition* (5, 6).—For students who have credit for a Major of "English IV" or for "English V" and who are desirous of receiving criticism upon essays, stories, or articles. There are no lessons or exercises, the sole requirement being that the student submit 30,000 words of original matter. The initiative lies solely with the student; the instructor confines himself to criticism and advice. It is essential that any student entering this course have definite work in mind. Others than graduates of "English IV" or "English V" will be admitted only upon the submission of MS displaying a technique adequate to the course. For single manuscripts of more than 30,000 words special

¹See foot-note on page 36.

arrangements and rates may be made with the instructor. Not more than a Major of credit will, however, be given for any one piece of work. Mj. ASSISTANT PROFESSOR GRABO.

Business Correspondence.—(Cf. description under Political Economy 6.)

10. Proofreading.—The course aims to equip the student with a knowledge of the practical details of typography, such as size of type, the methods employed by printers in composition, the niceties of spacing, and the work actually done by the printer in correcting proofs; to train the eye, the mind, and the memory in the application of consistent standards and the enforcement of rules of "style". With this groundwork the student is taught that proofreading is not merely a correction of misspelled words, but a profession calling for the use of a wide range of faculties, of individuality, and of independent judgment. The instruction includes actual reading of proof and a practical application of theoretical details. Before the course is completed the student will have been drilled in the fundamental essentials of English. Prerequisite: "English I" or an equivalent course. M. DR. POWELL.

11. Copy-Editing.—A practical course designed especially for those desiring to equip themselves for secretarial duties, or for filling the position of "copy-editor," and for writers and others whose work brings them in contact with printing and publishing houses as advertising copy-writers or the like. The student is trained to decide how his own manuscript, or that of others passing through his hands, should be treated and arranged for the printer, and is taught how to prescribe the appropriate typographical treatment for any class of "copy." Drill in all the practical details as well as the intellectual features of writing, by means of actual practice with all sorts of "copy," is a feature of the course. Prerequisite: course 10. M. DR. POWELL.

12. The Forms of Public Address (10).—This course is intended for students of public speaking. It gives training in the essential principles of constructive thinking, writing, and speaking, and includes gathering of information, organizing it for a definite purpose, and presenting it to meet varying conditions. In these ways the problem of organizing one's thought for public presentation, either in speech or in writing, is approached inductively through the careful analysis of certain masterpieces of public address. Among the forms studied are the following: the argument, the eulogy, the editorial, the commemorative address, the dedication, the toast, the after-dinner speech. Each student will be allowed reasonable leeway in selecting the particular form or forms of address he wishes to study intensively. Prerequisite: "English I" and "English III" or their equivalents. Mj. ASSOCIATE PROFESSOR LYMAN.

13. Versification.

A.—This course is offered for students interested in the technique of English verse. It cannot be expected that such a course will develop finished poets. But it is offered for the purpose (1) of training students in verse-writing, and (2) of giving them an understanding of the technique of verse, and hence increasing their appreciation of English poetry. The prime requisite in the student is that he have an interest in the subject, not that he have any special ability to write verse. To accomplish the purposes of the course, the student will study a textbook, make certain analyses of pieces of English verse, and write original verse of different types. Prerequisite: "English I" or its equivalent. M.

B.—For those who having completed course A desire to continue the writing of verse begun in that course and to receive criticism on their productions. There are no specific assignments; the student is expected to choose his own subjects and forms; he may write a few long pieces of narrative or descriptive verse or many short lyrics. The instructor makes such criticism and gives such counsel as seem to him helpful to the student. Open only to students who have completed course A with a high grade. M.

ASSISTANT PROFESSOR HULBERT.

14. The Understanding of Poetry.—The purpose of this course is to develop in the student, as fully and definitely as possible, an understanding and appreciation of poetry. In a series of detailed discussions which take the place of classroom lectures, the course explains the essentials of poetry and makes them clear by means of concrete examples. Supplementing the discussions the analysis of selected poems is required. Prerequisite: English I or an equivalent course. Mj. ASSISTANT PROFESSOR HULBERT.

15. The Development of English Literature (40).*—This course is designed to be the full equivalent of the first required college course in English literature. It introduces the student to the whole range of English literature by requiring the reading of selected masterpieces from *Beowulf* to the present time. Selections from English authors of both prose and poetry and a short history of English literature are used as the basis of study. The aim is (1) to give the student first-hand acquaintance with typical parts of the work of the leading English writers, (2) to study the place of the masterpieces in the development of English literature in their relation not only to one another but also to historic events and conditions, (3) to give the student the foundation for an appreciation of literature. The course as a whole affords a broad introduction to the more detailed and critical study undertaken in the group of courses under 19, "English Literature by Periods." Mj. ASSOCIATE PROFESSOR MARSH.

NOTE.—For admission to any one of the following courses, course 15 or its equivalent is prerequisite.

16. An Introduction to American Literature.—A series of studies of American life in American literature. The first few lessons are given over to pre-Revolutionary literature for the purpose of observing the earliest departures from English models and traditions. Chief emphasis is, however, thrown on the poets, essayists, and novelists of the nineteenth century. While the aim of the course is to put the student in the way of obtaining a preliminary acquaintance with the subject as a whole, assigned readings are restricted to selected works of twelve or fifteen representative men of letters, from Irving and Cooper to Lanier and Whitman. Mj. ASSISTANT PROFESSOR SHERBURN.

17. An Introduction to the Study of Shakspeare (41).—This course is planned to give the student a knowledge of Shakspeare's life and work, a familiarity with typical plays of the various periods in his dramatic career, some acquaintance with his relation to his age and its literature, and an introduction to the field of Shakspearean criticism and scholarship. The following plays will be studied: *A Midsummer Night's Dream*, *Romeo and Juliet*, *I Henry IV*, *Much Ado about Nothing*, *Twelfth Night*, *Hamlet*, *King Lear*, and *The Tempest*. Mj. Mrs. BASKERVILLE.

18. Play-Writing and Stagecraft.—The purpose of this course is to make students acquainted with drama as an art of the theater. It will be useful to (1) persons who are interested in writing plays; (2) students of literary drama who feel the need of a better knowledge of the requirements made upon the play by the theater; (3) individuals or groups whose work or pleasure brings them in touch with the arts of the theater, i.e., community leaders, recreational directors, teachers, members of dramatic clubs, etc.; (4) laymen and critics who wish to get a better understanding of tendencies and problems in dramatic writing and production. Students who take this course should, if possible, register for "Recent Drama" at the same time. This course can easily be used for group study; for particulars consult the Secretary.

A. *The Art of the Theater.*—Study and analyses of: (1) six famous theaters; (2) elements of dramatic structure; (3) elements of stage technique. M.

B. *Writing and Producing the Play.*—Supplements the analysis of course A by exercises in play-writing and play production. The student will submit scenarios and at least three plays. One of these will be original work and the others will be adaptations from stories. The student will be given exercises in staging his own work. He will prepare the manuscript for production, design sets, costumes, and lighting systems, learn how the designs are executed, and study the relation between the producer, stage manager, electrician, business manager, audience, and play-writer. M.

MR. JAMESON.

19. English Literature by Periods (42-48).—A series of seven Majors which cover with some minuteness the history of English literature from the middle of the sixteenth century down to 1892. In each Major the work consists mainly in the reading of a large number of representative masterpieces of the period and the preparation of answers to questions based upon this reading. A set of the books used in each Major, except the last one (F2), may be borrowed for a fee of \$5.00. Textbook work in a literary history of each period is assigned and the lesson-sheets furnish much supplementary material, such as bibliographies of the selected authors, suggestions for study of their principal works, etc. It is not necessary that the series be taken in chronological order, as each course is complete in itself; but those intending to take the whole series are advised to follow the chronological order. The series as a whole is designed to give first-hand knowledge of the chief masterpieces of modern English literature. Persons who have had course 15 or its equivalent, and who desire to do systematic reading of English literature without regard to college credit, may also arrange for any of these courses.

A. *English Literature from 1557 to 1599 (42).*—Reading from Spenser (at least one book of the *Faerie Queene* and various shorter poems), Wyatt, Surrey, Sackville, Sidney, Marlowe, and the other principal Elizabethan poets; Ascham's *Schoolmaster*, Sidney's *Defence of Poesie*, Lyly's *Euphues*, Lodge's *Rosalynde* and other prose works of the period. The plays of Shakspeare and of other dramatists are omitted because covered in other courses. *Mj.*

B. *English Literature from 1599 to 1660 (43).*—Reading of poems by Milton (his early work), Herrick, and all the chief Jacobean and Caroline poets; plays by Jonson, Beaumont and Fletcher, and the other principal playwrights up to the closing of the theaters; prose by Bacon, Browne, Milton, Taylor, Walton, and others. The works of Shakspeare are omitted because covered in other courses. *Mj.*

C. *English Literature from 1660 to 1744 (44).*—Reading of representative prose by Bunyan, Dryden, Pepys, Addison, Steele, Swift, Defoe; Milton's late poems (several books of *Paradise Lost*, *Samson Agonistes*, etc.), and the chief poems of Dryden, Pope, Thomson, and various minor poets; plays by Dryden, Otway, Wycherley, Congreve, and other Restoration dramatists. *Mj.*

D. *English Literature from 1744 to 1798 (46).*—Reading of novels by Richardson, Fielding, Smollett, Sterne, Johnson, Goldsmith, the so-called "Gothic" romancers, and Fanny Burney; miscellaneous prose by Johnson, Goldsmith, Boswell, Gibbon, and Burke; poems by Gray, Collins, Goldsmith, Chatterton, Blake, Cowper, Crabbe, Burns, and others; plays by Goldsmith and Sheridan. *Mj.*

E. *English Literature from 1798 to 1832 (47).*—Poems by Wordsworth, Coleridge, Southey, Scott, Campbell, Moore, Byron, Shelley, Keats, Hunt, Hood, Landor; novels by Scott and Jane Austen; miscellaneous prose by Coleridge, Lamb, Hazlitt, DeQuincey, the reviewers, etc. *Mj.*

F. *English Literature from 1832 to 1892.*

1. Poetry (48A).—The principal poems of Tennyson, the Brownings, Matthew Arnold, Clough, the Rossettis, George Meredith, William Morris, Swinburne, and others are studied. *Mj.*

2. Prose (48B).—This deals with Carlyle, Macaulay, Newman, Arnold, Pater, Ruskin, Stevenson, Borrow, and others; and also includes reports on novels by Dickens, Thackeray, George Eliot, the Brontës, Meredith, Hardy, and others. *Mj.*

ASSOCIATE PROFESSOR MARSH.

COURSES A-F (or their equivalents) are required of all candidates for the Doctor's degree in English, and at least four of them (or equivalents) for the Master's degree. Hence, though a year of resident study is required for the Master's degree and three years for the Doctor's degree, students may take these required courses by correspondence and later do more highly specialized work in residence. Credit for these courses as prerequisites for graduate degrees will be given to properly prepared students who do creditable work in their recitation papers and pass the final examination given on each course. Students not in the Graduate School may register for any of the courses, the only prerequisite being course 15 or its equivalent.

20. The History of the English Language (34A).—This course is offered in the belief that an understanding of what language is and of what the history of the mother-tongue has been is as important as a study of some part of its literature and indispensable to the latter study. It attempts to give a general survey of the development of the English language; its relation to other languages; the chief periods; the development of forms, sound and meanings, and foreign influences. Prerequisite: "English III" or two years of college work. Mj. ASSISTANT PROFESSOR HULBERT.

21. Development of the English Novel.—The history of English fiction is studied from the first novel in the sixteenth century to the works of the leading novelists of the present day. There is presented a brief discussion of story material before its novelization, and such consideration of matters of technique as will enable the student to consider fiction from the three fundamental points of view: (1) as social history; (2) as a vehicle for conveying personal attitudes and reactions; and (3) as a growing and developing art. Though the two Majors are designed to be taken together and in historical sequence each is complete in itself and may be taken alone.

A. *From Lyly's Euphues to the End of the Eighteenth Century (87A).*—This course includes the reading of about twenty novels, by Lyly, Sidney, More, Lodge, Greene, Nashe, Bunyan, Defoe, Richardson, Fielding, Smollett, Sterne, Burney, Goldsmith, Walpole, Beckford, Radcliffe, Brooke, and Godwin. Mj.

B. *From Jane Austen to Arnold Bennett, Galsworthy, and H. G. Wells (87B).*—The novels read are by Austen, Scott, Disraeli, Bulwer-Lytton, Dickens, Thackeray, Trollope, Reade, Brontë, Kingsley, Gaskell, George Eliott, Meredith, Hardy, Stevenson, James, Kipling, Conrad, Bennett, Galsworthy, and Wells. Mj.

MISS MORGAN.

22. The Drama in England from 1500 to 1600 (84).—This course includes a brief introductory survey of the mediaeval drama, a more detailed consideration of Renaissance drama, with the development of new types and new theatrical conditions, and finally a study of the development of a native romantic drama as revealed in the work of Lyly, Peele, Kyd, Greene, and Marlowe. Mj. PROFESSOR BASKERVILL AND MRS. BASKERVILL.

23. The Drama in England from 1600 to 1642 (85).—This course deals with the rise of the comedy of humors and of manners, with the perfection and decadence of tragedy, and with the later phases of romantic comedy. Masterpieces of Jonson, Dekker, Heywood, Beaumont and Fletcher, Middleton, Webster, Massinger, Ford, and Shirley are studied, with attention not only to the characteristics of these writers but to their interrelations, their influence on the course of the drama, and their reflection of social conditions. Mj. PROFESSOR BASKERVILL AND MRS. BASKERVILL.

24. The Plays of Shakspeare.—In two Majors is offered a rapid but fairly full survey of the plays of Shakspeare in chronological sequence. Attention will be directed to Shakspeare's handling of character and plot, to the development of his taste and technique, to the influence exerted upon his work by the literary and social trends of the time and to evidence, for dates, editions, sources, etc., for the individual plays.

A. *The Plays of Shakspeare from 1591 to 1599 (70A).*—This course, covering the plays through *Much Ado about Nothing*, includes the early tragedies and comedies, the chronicle plays, and the first masterpieces in comedy. The structure of comedy, the characteristics of witty comedy, Shakspeare's early style, and the reflection of social conditions in his comedies of this period are stressed. Mj.

B. *The Plays of Shakspeare from 1599 to 1611 (70B).*—This course, beginning with *Julius Caesar* and *As You Like It*, includes the chief tragedies, the Roman plays, and the comedies of the middle and later periods. Especial emphasis is laid on the structure and art of tragedy, on the satiric element in the earlier plays of this period, and on the dramatic seriousness of Shakspeare's work. Mj.

PROFESSOR BASKERVILL AND MRS. BASKERVILL.

NOTE.—Course 17 or its equivalent is a prerequisite for courses 22, 23, and 24. Students who wish to get a connected view of Renaissance drama are advised to take, in sequence, courses 22, 23, and 24.

25. Wordsworth and His Development of Romanticism.—A study of the poet's most significant works. M. MISS MORGAN.

26. The Works of Robert Browning.—In these two Minors the readings are arranged to acquaint the student with Browning's characteristics as an individual, a thinker, and an artist. Browning's significance as a representative of the later romantic poets and his relations to present-day poetic art are emphasized.

A. *Studies in the Shorter Poems.*—After the student has completed the introductory assignments which are designed to acquaint him with Browning's development as an individual, the readings are so arranged as to give the student an opportunity to concentrate his attention on characteristic "Browning Problems." These problems relate to Browning's theories of art, religion, and science and to his characteristic use of matter and form. M.

B. *The Ring and the Book and Dramas.*—Attention is directed toward Browning's experiments with narrative poetry and drama and to the relations between his thinking and his writing. Students who are qualified may, if they choose, study the solutions of technical problems offered by Browning as compared to the solutions offered by Conrad or Masefield. M.

MR. JAMESON.

27. Studies in the Poetry of Tennyson.—The purpose of this course is to study Tennyson's poetic craftsmanship and his historic and aesthetic relations to the poets and thinkers of his time. The latter part of the course examines and tests Tennyson's answers to problems that are typical of nineteenth- and twentieth-century civilizations. M. MR. JAMESON.

28. Representative English Essayists of the Nineteenth Century.—An advanced study of six essayists, including a brief preliminary discussion of the appearance in England of the essay and its development as a literary form. The work is based upon typical essays of Lamb, De Quincey, Macaulay, Carlyle, Ruskin, and Arnold. The method of study is the biographical and historical and, to a limited extent, the philosophical. Emphasis is laid upon the intimate relation of literature to the forces of social life. Mj. MISS MORGAN.

29. The Short Story in English and American Literature.—In connection with a brief résumé of the history of the short story in England and America students will read, critically, a number of representative stories by Irving, Hawthorne, Poe, Dickens, Bret Harte, Henry James, Page, Cable, Stockton, Davis, "O. Henry," Mary E. Wilkins, Hardy, Doyle, Stevenson, Conrad, Kipling, and others. The critical study will be devoted principally to investigation of the methods by which effectiveness is secured. Mj. ASSOCIATE PROFESSOR MARSH.

30. The Irish Literary Revival.—A study of the achievements of the modern Irish writers, their revival of the older Irish literary traditions, and their significance in modern literature. The course opens with a survey of Celtic myth, legend, and romance; proceeds with the living folk literature, fairy tales, and songs, and concludes with readings in the works of modern poets and dramatists—Yeats, Synge, Hyde, Lady Gregory, James Stephens, AE, George Moore, and others. M. MR. JAMESON.

31. Elementary Old English (21).—This course aims (1) to train the student in the translation of simple Old English, and (2) to give him a solid basis in grammar. Incidentally it introduces the student to philological methods and to historical English grammar. Bright's *Anglo-Saxon Reader* is used. Mj. ASSISTANT PROFESSOR HULBERT.

32. Intermediate Old English (22).—In this course the drill begun in course 31 is continued, and in addition Old English meter and poetic style are studied. The poems in Bright's *Reader* and about 500 lines of *Beowulf* are read. Mj. ASSISTANT PROFESSOR HULBERT.

33. Advanced Old English (23).—The remainder of *Beowulf* is studied with reference not only to its language but to its stylistic and literary features. Mj. ASSISTANT PROFESSOR HULBERT.

34. Introduction to Chaucer (28).—May be taken by students who have had no training in Middle English. Along with the reading of selected poems there is study of the main facts regarding Chaucer and his works. Mj. ASSOCIATE PROFESSOR MARSH.

35. English Grammar for Teachers (33).—A much more advanced course than the one numbered 1, page 35, presupposing a fairly good knowledge of the subject. The recommendations of the Joint Committee on Grammatical Nomenclature are embodied. Some stress is laid on the textbooks available and on the problems with which teachers have to deal. Mj. ASSOCIATE PROFESSOR MARSH.

For other courses for teachers of English see p. 64.

GENERAL LITERATURE

This Department offers work to two distinct classes of students: (1) those doing graduate work in comparative literature, for whom a knowledge of the original languages and some previous training in literature are indispensable; (2) those doing undergraduate work, who wish to become acquainted with foreign literatures for the purpose of general culture, and for whom a reading knowledge of the original languages, though desirable, is not necessary. The courses presuppose "English I" and "The Development of English Literature" or their equivalents.

1. World-Literature for English Readers (1).—This course surveys the literature of the world and notes its influence upon the culture of English-speaking peoples. Moulton's *World Literature* will furnish the point of view and the historic background for the course. This will be supplemented by the reading, wholly or in part, of selected masterpieces, among which will be the five literary Bibles theoretically treated in the textbook—the Holy Bible, Classic Epic and Tragedy, Shakspeare, Dante and Milton, and versions of the story of Faust. There will also be readings in comparative literature, studies in collateral literature, and a survey of strategic points in the development of literature as a science. It is primarily a college course, but it is also adapted to the needs of the general reader. Works not English will be read in translation. Books for the required reading may be found in any well-selected library or may be borrowed from the University by arrangement with the Director of the Libraries. Mj. MISS SCHRADER.

2. Ancient Epic and Tragedy for English Readers (3B).—The aim of this course is to present Greek epic and tragedy from a purely literary point of view. It will include a study of the poetic heroes of the Argonautic Expedition and of the Trojan War. The works will be read in translation and in the order of the story sequence rather than in the chronological order of their authorship. Under the myth of the first generation *The Argonauts* of Apollonius, *Medea* of Euripides, and *Jason* of William Morris (a modern reconstruction) will be read. A larger selection of works will be included under the myth of the second generation, including the *Iliad*, the *Odyssey*, and tragedies of Aeschylus, Sophocles, and Euripides that touch the story of the Trojan War. Besides noting the place these works occupy in the progressive development of a story sequence, both epics and tragedies will be studied with reference to structure and general technique. Vergil's dependence upon Homer and his influence upon mediaeval literature will also be noted. Mj. MISS SCHRADER.

3. The Literary Study of the (English) Bible (2).—This course is intended for those who teach or expound the Bible and for those who merely read it as a part of universal literature. The aim of the course is (1) to familiarize the student with the literary forms found in the Scriptures, under the general divisions of Lyric Poetry, History with Epic, Wisdom Literature, Prophecy, and forms of Address; (2) to show how the separate books of the Bible when read in their literary sequence draw together with a literary connection like the unity of a

dramatic plot. Moulton's *The Literary Study of the Bible* and *The Modern Reader's Bible*—in which the books of the Bible with three of the Apocrypha are edited in modern literary form—are the required texts. Mj. Miss SCHRADER.

4. **Dante and Milton (5A).**—The purpose of this course is to familiarize the student with the special significance of Dante as an interpreter of Mediaeval Catholicism and of Milton as a revealer of Renaissance Protestantism. The study will include a brief survey of the life and early work of each of the poets, but emphasis will be placed upon the *Divina Commedia* and *Paradise Lost*, as these embody the spirit of progressive civilization. Special attention will be given to the structure of the poems as related to the matter presented; to the aspects of good and evil as interpreting the philosophical thought of Mediaevalism and the Renaissance, and to the elements of creative excellency, which give to both Dante and Milton a place among the supreme poets of the world. For the study of Dante, Plumptre's metrical translation is recommended, but the prose translation of C. E. Norton may be used; for the study of Milton the Cambridge edition of *Milton's Poetical Works* will be used. The required work of the course is based upon matter contained in the texts, but bibliographies are included, and recommended readings are cited to aid the student who desires to supplement the required work with more exhaustive study. Mj. Miss SCHRADER.

5. **The Modern Study of Literature.**—Aims to treat the whole theory of literature. It presents the morphology, evolution, and criticism of literature and reviews its philosophic and artistic aspects. Its foundation principles are inductive observations with emphasis upon evolutionary processes; its field of view is the ideal conception of the unity of all literature. Moulton's *The Modern Study of Literature* is used as a textbook and guide. Either Major may be taken by itself if desired.

A. *The Foundation Principles of the Study of Literature* (40).—The design of this course is to grasp the form and structure of literary expression and to define the field and scope of literary activity as seen in the history of world-literature. It also presents literature as a mode of philosophy and as a mode of art. The textbook will be supplemented by the reading of selected works which will illustrate and explain the various subjects treated in the course. Mj.

B. *Literary Criticism and Theory of Interpretation* (41).—This course will make clear the traditional confusion and the modern reconstruction of literary criticism. After the four leading types of criticism have been mastered, the course will fall into two parts: (1) an exposition of the criticism of interpretation; and (2) a formulation of the leading principles of speculative criticism. As in course A, the textbook will be supplemented by selections from Shakspeare and other masters of literature. Mj.

MISS SCHRADER.

6. **Recent Drama (10).**—Recent drama reflects to a remarkable degree current habits of thinking and living. It reflects the problems raised by large-scale industry, the problems that result from a rapid civilization and the typical answers and analyses of these problems offered by Ibsen, Bjornson, Strindberg, Sudermann, Hauptmann, D'Annunzio, Tchekoff, Shaw, Galsworthy, Rostrand, Echegaray, Yeats, Synge, Maeterlink, and others. The readings are arranged to meet the needs of two classes of students: (1) professional men and women who wish to increase their knowledge of literature but hesitate to take courses in the earlier periods; (2) students and teachers of literature who need direction in selecting typical plays from a large number of important ones. Some attention is paid to recent theories of the art of the theater because these theories have been influential in defining the spirit of many recent plays. The course is flexible and can be adapted somewhat to meet individual requirements. (Cf. "Play-Writing and Stagecraft"). Prerequisite: "English I" and "The Development of English Literature." Mj. MR. JAMESON.

7. **The Modern Novel.**—The readings in this course are arranged to introduce the student to tendencies in recent fiction. A study is made of the analyses

presented in the novels of the social and human problems of recent times. Some attention is given to the significance of the books in the history of literature, the meaning of the critical theories they imply, as well as their importance in interpreting the thought of modern Europe. The course can be adapted to meet the needs of students who have already become acquainted with some of the modern novels. Such students should consult the instructor. Prerequisite: "English I," "The Development of English Literature" and "English Literature by Periods, -F (2)" or their equivalents. Mj. MR. JAMESON.

8. Contemporary Literature and Current Problems (142B).—This course is designed as an untechnical survey of contemporary novels, plays, and essays that reflect the changing social, political, and ethical conventions of the day. Effort will be made to trace them, as far as possible, to such nineteenth-century influences as Nietzsche, Ibsen, Maeterlinck, Shaw, and the socialist, anarchist, and decadent movements. Particular attention will be paid to the conflict of ideas popularly embraced under the head of "feminism"; to the present resurgence of individualism; to the aesthetic problems of present-day realism. The course will be based upon typical works by such novelists as Bennett, Wells, Galsworthy, Cannan, Beresford in England, and Herrick, Edwards, Dreiser in America; by such dramatists as Barker and Houghton; by such essayists as Walter Lippman, Olive Schreiner, and Ellen Key. Although outlines will be used, anyone who enters this course should be capable of forming independent judgments of the works studied. Mj. MR. JAMESON.

Literature and History of the Arabs.—(Cf. description under Oriental Languages and Literatures 14.)

MATHEMATICS

HIGH SCHOOL

1. Elementary Algebra.

A.—This course is designed for beginners and deals in a very simple way with the elementary principles of algebra. The principal topics discussed are: the four fundamental operations of algebra, solution of linear equations and of systems of simultaneous linear equations, together with an introduction to the subject of graphs. Mj.

B.—This course presupposes A and deals with factoring, fractional and literal equations, radicals, graphics, quadratics and simultaneous quadratic equations. Mj.

C(00).*—In this course emphasis is placed on standard algebraic forms such as the student is likely to meet in later work in mathematics and physics, and especially such as were too complicated for discussion in either of the preceding Majors. In general this course covers the ground of "Advanced Algebra" as given in the ordinary high-school curriculum. It concludes the study of quadratic equations, deals with ratio, variation and proportion, exponents and radicals, and gives fair attention to logarithms (a four-place table being used) and progressions. Mj.

ASSOCIATE PROFESSOR LAVES.

2. Plane Geometry.

A(01).*—Embraces a study of Books I and II. The theory is well illustrated by numerous original exercises. Mj.

B(02).*—Continues A and covers Books III–V. Mj.

ASSOCIATE PROFESSOR LAVES.

3. Solid Geometry (0).*—Here, as in plane geometry, the main emphasis is laid on exercises calling for original work. Mj. ASSOCIATE PROFESSOR LAVES.

Descriptive Geometry.—A series of four Majors. (Cf. description under Drawing C.)

COLLEGE

4. Plane Trigonometry (1).—Theory and practice in the solution of triangles by natural functions and logarithms. Applications to simple problems of surveying, physics, and astronomy. Properties of the trigonometric functions treated analytically and graphically. Applications to simple harmonic and wave motion. Mj. PROFESSOR WILCZYNSKI.

5. College Algebra (2).—The notion of variable and function and their geometric representation. Variation. Equations of the first degree and determinants. Quadratic equations, complex numbers, and theory of equations. Fractional and negative exponents, exponentials, and logarithms. Mathematical induction, binomial theorem, and progressions. Undetermined coefficients, permutations and combinations. Mj. PROFESSOR WILCZYNSKI.

6. Plane Analytic Geometry (3).—Rectangular, oblique, and polar coordinates in the plane. The relation between a curve and its equation. The algebra of a variable pair of numbers and the geometry of a moving point. Specific applications to the properties of straight lines, circles, conic sections, and certain other plane curves. Mj. PROFESSOR WILCZYNSKI.

7. Solid Analytic Geometry (31).—The co-ordinate systems in space. Lines, planes, and quadric surfaces. General properties of surfaces and space curves. (Informal.) Mj. PROFESSOR WILCZYNSKI.

8. Calculus with Applications.—This is designed for students intending to pursue the study of pure or applied mathematics as well as for those who are actively engaged in work which presupposes a knowledge of calculus. An important feature throughout is the large number of practical applications. In dynamics, physics, mechanical and electrical engineering a working knowledge of the calculus is essential. Therefore in the exposition of the theory dynamical, physical, and geometrical illustrations are freely used. It is the aim to acquaint the student with the kind of mathematics which he will find useful and to cultivate the power of applying the principles of the calculus, at first to simple, then to more difficult, practical problems. The course is divided into three parts; for the first of them, A, a knowledge of solid geometry, trigonometry, college algebra, and plane analytic geometry is requisite.

A (18).—This deals mainly with the differential calculus and applications. Mj.

B (19).—Chief attention is given to the integral calculus and applications. Mj.

C (20).—This provides: (1) a continuation of the treatment of several topics begun in A and B; (2) applications of the calculus; (3) a brief treatment of differential equations. Mj.

PROFESSOR WILCZYNSKI.

9. Theory of Equations (22).—The fundamental properties of algebraic equations, their transformation, and the approximate determination of their roots. Determinants, symmetric functions, and invariants. (Informal.) Mj. PROFESSOR WILCZYNSKI.

Analytical Mechanics.—(Cf. description under Astronomy 2.)

10. Differential Equations (47).—Discussion of problems which lead to differential equations and of the standard methods for their solution. (Informal.) Mj. PROFESSOR WILCZYNSKI.

11. Projective Geometry (29).—A first course in the subject based essentially on a synthetic treatment. (Informal.) Mj. PROFESSOR WILCZYNSKI.

The History of Astronomy.—(Cf. description under Astronomy 4.)

For courses for teachers of Mathematics see pp. 65 ff.

Members of the Mathematical Department will endeavor to arrange informal courses for students who are able to do work of an advanced nature, whenever practicable.

ASTRONOMY

1. Descriptive Astronomy (1).—An elementary general-culture course designed (1) to furnish an idea of the principles, methods, and results of the science; (2) to show the steps by which the remarkable achievements in it have been attained; and (3) to unfold that extended horizon which astronomy has laid open. This work covers the recent investigations respecting the origin and development of the solar system. Moulton's *Introduction to Astronomy* (rev. ed.). (Informal.) Mj. PROFESSOR MOULTON OR ASSOCIATE PROFESSOR MACMILLAN.

2. Analytical Mechanics.

A (5).—An elementary course aiming to give the students a firm grasp of the physical principles involved, leaving aside at first all mathematical developments which do not contribute directly to this end. By the solution of graded problems the student is taught to use his knowledge of mathematics in the solution of concrete problems of nature. The course includes a short introduction to the underlying principles of the motion of a particle. The main body is devoted to the statics of a system of particles and of rigid bodies. Prerequisite: Differential and Integral Calculus. Mj.

B (6).—Continues A and deals with the dynamics of a particle and of a system of particles. The motion of rigid bodies, together with a short study of generalized co-ordinates, completes the course. Mj.

ASSOCIATE PROFESSOR MACMILLAN.

3. Celestial Mechanics (22, 23).—A treatment of the dynamics of the solar system, including the contraction theory of the heat of the sun, the attraction of bodies, the two-body problem, determination of orbits, the general integrals of motion, the three-body problem, and perturbations. Moulton's *Introduction to Celestial Mechanics*. Prerequisite: Differential and Integral Calculus. (Informal.) DMj. PROFESSOR MOULTON OR ASSOCIATE PROFESSOR MACMILLAN.

4. The History of Astronomy.—This is a culture course on the subject for persons who desire to familiarize themselves with the scientific ideas, methods, and results that have determined scientific progress down to recent times. The history of no science so fully exhibits the complete scientific method as does the history of this oldest, most complete, and most exact of all the sciences. A careful study of it may well constitute a part of a liberal education. It is both stimulating and directly helpful to teachers of high-school science and mathematics. A real basis for much of the high-school mathematics is furnished by supplying the astronomical setting from which it sprang. Mj. PROFESSOR MYERS.

PHYSICS

1. Elementary Physics.

A. *Mechanics, Molecular Physics, and Heat* (1).*—This course is designed to cover the first half-year's work in elementary physics as given in high schools and academies. A text is followed rather closely but the assignments in it are supplemented by new problems and references to other textbooks. The apparatus for the required laboratory work is packed in a special case and shipped to the student. Instructions for setting up the apparatus and performing the experiments are sent with the lessons as the work progresses. Reports on both the reading and laboratory work are submitted by the student for approval or correction. A deposit of \$20.00 is required for the loan of the apparatus. This will be refunded when the same is returned intact, less expressage and \$5.00, the loan fee. Mj.

B. *Electricity, Magnetism, Sound, and Light* (2).*—A continuation of course A and the equivalent of the second half-year of high-school physics. The plan for text and laboratory work laid down under course A is followed in this course. A deposit of \$20.00 is required for the loan of apparatus. This will be refunded when the same is returned intact, less expressage and \$5.00, the loan fee. Mj.

MR. BOWEN.

CHEMISTRY

1. General Inorganic Chemistry.—The two Majors into which the work is divided furnish a review and a continuation of elementary chemistry and form the link between the average high-school course in chemistry and "Qualitative Analysis." In view of the fact that students will have different degrees of preparation the number of lessons may be varied by omitting such parts of the subject as the student may already have mastered; in this way the work will be adapted to individual needs and waste of time and effort will be avoided. A balance sensitive to one centigram is essential for the course. If the student has not access to such a balance, he must either purchase one, together with weights—50 gm. to 0.01 gm.—or he can borrow one from the University. The deposit for this is \$20.00. He must also have access to a barometer, which cannot be loaned by the University, but there are few places in which a barometer cannot be found. The rest of the *apparatus* needed for either course A or B will be loaned for a deposit of \$20.00. The *chemicals* necessary for course A will be loaned for a deposit of \$10.00, and those for course B for \$15.00. When the equipment is returned, the deposits will be refunded, less the cost of checking, non-returnable and missing parts, breakage, carrying charges, and a fee of \$2.00 for the use of the apparatus in each Major, \$3.00 for the chemicals in course A, \$4.00 for those in course B and \$2.50 for the balance.

A (2S).—This course includes a study of the principal non-metallic elements and their chief compounds. It includes also the study of the laws and principles of the science and their use in explanation of chemical phenomena. The laboratory work, which is an important part of the course, affords opportunity for gaining direct knowledge of the different substances, their modes of manufacture, and their properties. In the choice of illustrations preference is given to the industrial and other applications of chemistry. Prerequisite: a course in inorganic chemistry as ordinarily given in high schools. Mj.

B (3S).—Continues course A and deals chiefly with the metallic elements. Mj.

ASSOCIATE PROFESSOR SCHLESINGER.

2. Qualitative Analysis.—The second year of college work in chemistry includes two Majors of Qualitative Analysis ("A" and "B" below) and "Elementary Organic Chemistry." "Qualitative Analysis—C" is a graduate course and is taken usually after work in Quantitative Analysis. The apparatus and the reagents for any one of the following three Majors will be loaned for a deposit of \$35.00 (or \$20.00 for the apparatus and \$15.00 for the chemicals if either *alone* is wanted). If only the set of sixty glass-stoppered bottles required for the necessary solutions is needed, they will be loaned for a deposit of \$6.00. The deposit will be refunded when the outfit is returned, less deductions for the loan (\$2.00 for the apparatus, \$4.00 for the chemicals, \$0.50 for the bottles, if only the set of bottles is borrowed), inspection, and broken and missing parts. Carrying charges must be paid by the student on receipt of the outfit and must be prepaid by him when he returns it. An extra charge of \$1.00 is made for the "unknowns" furnished in each of the courses, A, B, and C.

A (6).—This course aims to present the fundamental methods of Qualitative Analysis. The analytical reactions of the most important metals and acids are studied. This is done in such a way that the student learns the art of performing tests and comes to understand how the methods of separation and detection are based upon a judicious selection and arrangement of these tests. During the course each student analyzes a number of mixtures which contain, in each case, only the metals or acids of a single group. Qualitative Analysis has been modified by the influence of physical chemistry. The theories of solution and of electrolytic dissociation and the study of problems in chemical equilibrium have all contributed to furnish analytical chemistry with a scientific foundation which it never possessed before. Course A is planned to develop the subject with this scientific, theoretical foundation and at the same time to give a thorough foundation in *systematic analysis*. Prerequisite: "General Inorganic Chemistry" (A and B) or the equivalent. Mj.

The theoretical part of course A may be taken as a half-major by a student who has had an adequate laboratory course in Qualitative Analysis and who wishes to review the theory or to familiarize himself with the modern theory of Qualitative Analysis as based on physical chemistry (equilibrium relations, ionization, precipitation, complexions, the electrical theory of oxidation and reduction, etc.). M.

B (7).—Continues course A and gives the student practice in the *systematic analysis* of simple salts, simple mixtures, and, finally, of rather difficult mixtures in which the metals and acids are to be determined. Fifteen to twenty "unknowns" will be analyzed. The main object of the course is to develop *accuracy* and *reliability*, and these must be demonstrated in the final analyses to secure credit. Mj.

C (10).—Continues course B and requires the analysis of complicated mixtures, and especially the analysis of minerals and commercial products. Mj.

PROFESSOR STIEGLITZ.

3. Elementary Organic Chemistry (4).—This course is taken in the second year of college work and presents in outline a survey of the fundamental principles of Organic Chemistry and of the main classes of organic compounds. For the convenience of the beginner the theoretical presentation follows in large measure the development given in one of the best college texts, but it is brought up to date, and by numerous supplementary discussions it indicates in perspective the lines of thought and development which would be followed in a more advanced study of the subject. The chemical discussion is accompanied by, and in large measure is based on, experimental work, illustrating the principles presented and the chemical behavior of the important classes of organic compounds studied. On account of the inflammable nature and the high volatility of many of the compounds used there is a greater element of danger in this course than in the ordinary chemistry courses, due to the risk of fire and of explosions from faulty or careless manipulation. Directions for avoiding accidents are made as explicit as possible, but the course should be taken only by those who through experience as teachers or as workers in commercial laboratories have confidence in their own carefulness. The *apparatus* for this course will be loaned for a deposit of \$30 (or \$25 if the ironware is not wanted). When the outfit is returned the deposit will be refunded less the cost of non-returnable, broken, or missing parts, packing, and inspection charges, and a loan fee of \$3.00. Most of the *reagents* required will be found in the average laboratory, but a number of special organic and inorganic chemicals are required which will not usually be at hand. These may be ordered from a supply house or they may be borrowed from the University for a deposit of \$5.00. When they are returned, a loan and inspection fee of \$3.50 will be deducted and the balance will be refunded to the student. Carrying charges must be paid by the student on receipt of the outfit and must be prepaid by him when he returns it. Prerequisite: courses 1 (A and B) and 2 (A and B) or equivalents. Mj.

The theoretical part of this course may be taken as a half-major by a student who has had an adequate laboratory course in organic chemistry and who wishes to review the theory from an up-to-date point of view. M.

PROFESSOR STIEGLITZ.

GEOLOGY AND PALEONTOLOGY

HIGH SCHOOL

1. Physical Geography.—This course is designed especially for high-school students or those desiring a course equivalent to that given in a first-class high school. The lessons treat of the form of the earth and its solar relationship; the work of running water, underground water, waves, glaciers, and the atmosphere as agencies which are at present, as in the past, modifying the earth's surface; and the phenomena of vulcanism and movements of the earth's crust. Some attention is given to climate. Mj. ASSOCIATE PROFESSOR BRETZ.

COLLEGE

2. Physiography (1).*—The course embraces the following general subjects: (1) the form of the earth as a whole and its relation to other members of the solar system, particularly the sun and the moon, with the consequent changes in the length of day and night and the seasons; (2) the atmosphere—its constitution, temperature, pressure and movements, weather changes and climate; (3) the ocean—its constitution, temperature, movements, geologic activities, coastline phenomena; (4) the land—the geologic processes by which the earth's topography has been chiefly determined and the varied topographic types which result therefrom, including the study of the origin and development of plains, plateaus, river valleys, mountains, volcanic cones, islands, and seashore features. The effects of man's physical environment upon his distribution, his habits, and his occupations will be continually emphasized. Topographic maps and folios will be studied, and the maps will be used in connection with land forms. The rocks and minerals forming the earth's crust will be treated as fully as the course permits. The last lessons will give the student some opportunity to do individual field work. Laboratory methods will receive attention throughout the course. The course is suited to the needs of those who teach physical geography and physiography in preparatory schools. If a student has credit for Geography 1, this course will yield only one-half Major. Mj. ASSOCIATE PROFESSOR BRETZ.

3. General Geology (5).—This course treats of the leading facts and principles of geology and the more important events of geological history. It embraces the following general subjects: (1) the materials of the earth; (2) physiographic geology—the work of atmosphere, running water, glaciers, waves and currents, and organic agencies treated in a manner to supplement the physiographic studies of course 2; (3) vulcanic, diastrophic, and structural geology; (4) elementary studies in the interpretation of topographic and geologic maps; (5) historical geology—a systematic study of the development of the series of geological formations, with special reference to the evolution of the North American continent and the historical development of life-forms; (6) economic geology; (7) a special general geological report on a particular area in the student's own vicinity. This course is adapted to the needs of teachers in high schools and academies, to those interested in economic geology, and also to students not intending to specialize in geology. Course 2, while desirable, is not a prerequisite. Mj. ASSOCIATE PROFESSOR BRETZ.

4. Elementary Mineralogy (3).—A course intended to familiarize students with the common minerals. A large part of the work will consist in determining, principally by means of their physical properties—streak, hardness, cleavage, specific gravity, etc.—the 85 or 90 specimens which will be furnished. The origin, occurrence, and economic uses of each mineral also will be studied. The work on minerals will be supplemented by a brief discussion of the rocks, their modes of formation, occurrence, and classification. The course is intended for beginners, and no previous geological training is required, but an understanding of a few of the fundamental principles of chemistry is highly desirable. The streak plate and the set of specimens will be furnished for a fee of \$6.00. A small hand lens and a specific-gravity balance will be very useful and if possible should be procured by the student. The set of minerals becomes the property of the student and will serve for future reference or as a nucleus for a collection. Mj. DR. MACCLINTOCK.

5. Economic Geology (2).—This course is designed to give a general knowledge of the principles governing the formation and occurrence of the more important ores and non-metalliferous deposits, and of the conditions, commercial and otherwise, which limit their exploitation. It covers the study of (1) structural materials—including building stones, clays, limes, mortars, and cements; (2) fuels—including coal, petroleum, and natural gas; (3) principles controlling the deposition of metalliferous ores—including the nature and genesis of ores, the forms of ore bodies, and their relations to the structural features of the containing rocks, the formation of cavities in rocks, underground waters, their composition, circulation, etc.; (4) ores of metals—including iron, copper, lead, zinc, gold, and

silver. No attempt is made to cover the entire field, but typical districts or occurrences are studied in each case. Incidentally it is hoped the student will learn how to study a district independently and to that end he will be put in touch with the general literature of the subject. The student is expected to be familiar with the common rocks and minerals. Prerequisite: elementary chemistry and course 3 or a practical knowledge of geology gained by experience in mining or the like. Mj. DR. MACCLINTOCK.

ZOÖLOGY

1. Elementary Zoölogy (1).—An introduction to the general principles and concepts of zoölogy for premedical and other students. The laboratory work includes (a) observations, dissections, and experiments upon unicellular animals (*Amoeba* and *Paramecium*); (b) a higher invertebrate type, such as the earthworm and crayfish; (c) a vertebrate type (the frog); (d) a study of embryology and of cell division. A fee of \$5.00 will be charged for the materials furnished and the loan of slides. A compound microscope magnifying 400 diameters, a hand lens, and a set of dissecting instruments will be needed. The cost of instruments (exclusive of microscope and hand lens) need not exceed \$3.75. Mj. PROFESSOR NEWMAN.

2. Elementary Entomology (4).—The course opens up the large field of general entomology, and at the same time furnishes thorough training in the elementary principles of the science. A type insect is studied intensively, and representatives of other groups are compared with the type. The student thus becomes familiar with the taxonomic structures and terminology for the same, a knowledge of which is essential in all identification work. Instruction is given concerning methods of preserving and pinning insects for collections. Students already interested in some particular insect group, or in some special phase of entomology, will be given assistance in securing and identifying material, will be supplied with special references to literature, and, if they wish, will be put in touch with others working along the same line. The expense for books will be between \$5 and \$10, and, for the hand lens which the student must have, about \$2.50. A low-powered compound microscope or a dissecting microscope will be helpful but not essential. Prerequisite: desirably a high-school course in biology, but mature students will be able to acquire all the necessary preliminary knowledge from the reading that will be assigned. Mj. DR. BELLAMY.

3. Evolution and Heredity (introductory course) (5).—The course gives an unprejudiced treatment of one of the central problems of biology and is intended to serve as an introduction to more advanced special work in zoölogy and other biological branches. Yet the general student will find the work absorbingly interesting if he is prepared to read widely and to form independent judgments as to the validity of arguments and evidence. Among the topics discussed are: (1) brief survey of animal groups in the order of increasing complexity; (2) the idea of a phylogenetic tree; (3) evidences of evolution from comparative anatomy, embryology, paleontology, and geographical distribution; (4) the ancestry of man; (5) the history of the evolution idea from the Greeks to Darwin; (6) Darwinism—a critical discussion; (7) post-Darwinian hypotheses as to the causes of evolution; (8) variation and heredity as prime factors of evolution; (9) variations: size, kind, causes; (10) the heritability of variations; (11) the physical basis of heredity; (12) Mendelian heredity; (13) the facts of inheritance in man; (14) eugenic aspects of evolution and heredity. Mj. PROFESSOR NEWMAN.

4. Genetics and Eugenics.—This course has no technical prerequisite, but it may advantageously follow course 3, since it treats fully certain aspects that could only be outlined in that course. Students are directed to the best and most recent literature on the subject available. Among the topics dealt with are: (1) the facts and factors of development; (2) the cellular basis of heredity; (3) the biology of sex and the mechanics of sex determination; (4) the inheritance of acquired characteristics; (5) the most recent developments of Mendelian

heredity; (6) heredity of physical and mental traits in man; (7) the principles of eugenics; (8) parenthood and race culture; (9) eugenic programs; (10) eugenic legislation. Mj. PROFESSOR NEWMAN.

5. General Morphology and Natural History of the Invertebrates.

A. *Protozoa, Protozoa, Coelenterata, Platyhelminthes, Nematelminthes, and Echinodermata* (15).—An introduction to the study of invertebrate animals. The work includes laboratory study of the anatomy, physiology, and, as far as possible, of the life-history of typical forms, together with assigned reading. Special emphasis is laid on the economic importance of the animals considered. The fundamental principles of comparative morphology are kept in view throughout the course. In addition to the study of the material furnished (about thirteen forms) the student will be expected to acquaint himself with some of the typical invertebrates of his own locality, and directions for the collection and determination of such forms will be given. The securing of the protozoa studied in the course is a part of the laboratory work, and since protozoa must be cultivated in infusions, which require from one to three or four weeks, the student should not delay registration until he is ready to begin work. Instructions for making infusions will be sent with the first lessons. Fee for material and loan of more difficult preparations, \$8.50. Mj.

B. *Mollusca, Annelida, and Arthropoda* (16).—Continues A and completes the study of the invertebrates, including the most interesting group, the insects. About twelve forms, including some especially prepared, are furnished. Dissection of the clam, snail, squid, earthworm, clam-worm, lobster, spider, grasshopper, and several other insects, and study of habits, physiology, and life-histories of these forms are required. The fee for materials and the loan of the more difficult preparations, including slides illustrating adaptation among insects, is \$8.50. Mj.

DR. HYMAN.

6. *Vertebrate Zoölogy* (17).—An introduction to the study of the vertebrates and their relatives. The laboratory work includes dissection of the dogfish, turtle, and cat, and the preparation and study of the skeletons of several animals. Material with circulatory systems injected will be furnished, and in addition the student must provide two or three easily obtainable forms. The work is strictly comparative, i.e., each system of organs is taken up and its progressive change from the lowest to the highest forms is followed. The cost of dissecting instruments and the books will be about \$11.00. Fee for materials, \$12.50. Prerequisite: course 1 or its equivalent. Mj. DR. HYMAN.

7. *Vertebrate Embryology* (20).—A course indispensable for the teacher of zoölogy and fundamentally important to all who wish to understand the origin and development of the human structure. The study includes (a) laboratory work on the development of the chick and the pig, dissection of pig embryos and of a pregnant pig uterus; (b) assigned readings on the development and structure of the sexual cells, fertilization, early development of vertebrates in general, and of the chick and mammals, including man, in particular; (c) formation of embryonic membranes; human membranes and placenta, later development of various systems, especially the nervous system, the alimentary canal, the circulatory system, and the urino-genital system. The student must provide, if possible, living chick embryos. A compound microscope, magnifying 200 diameters, a dissecting microscope (if not obtainable a good hand lens may be substituted), and a few dissecting instruments are required. The deposit for the loan of the necessary slides and for the materials furnished is \$10.00. When the slides are returned this deposit, less \$5.00, will be refunded. Prerequisite: course 1 or its equivalent and desirably "Vertebrate Zoölogy." Mj. DR. HYMAN.

8. *Animal Ecology*.—Ecology treats of the relations of organisms to their environment. This relation is illustrated by the reactions of the animals to the environmental factors, such as light, temperature, moisture. The reactions, in turn, determine the distribution of the animals. This course will help the student to become acquainted with the great variety of animal forms that he will find existing in his own locality. He will become familiar with the habits of the many species of animals and will learn how, when, and where to find them.

At the same time he will be taught how to collect, preserve, and identify the species that he finds; he will receive training in environmental analysis that will enable him to readily classify scientifically any natural environment with which he may come in contact. Assistance by means of written directions and outlines and by suggested and required reading makes up the formal part of the course. The expense for books and apparatus will be about \$10.00. (Informal.) Mj. DR. BELLAMY.

9. Economic Zoölogy.—In this course the student is introduced to the different animal groups from the economic point of view. The collateral reading and formal lessons are planned so as to build upon previous morphological knowledge of animals a knowledge of the importance of each group in the economy of man. Thus the animals that furnish food, that destroy crops, that carry and produce disease, etc., are taken up in turn. The course is arranged so that it may be adapted to the region in which the student lives, and thus he may make a particular study of the economic forms in his own locality. This study will form an illustrative basis for the study of groups in other localities and countries. The methods of study will combine those of ecology, physiology, and general life-history work. Only students who have completed courses in the morphology of the invertebrates and the lower vertebrates will be admitted. The total expense for books and apparatus will be about \$10.00. The materials required will differ in individual cases. Mj. DR. BELLAMY.

10. Graduate Reading in Zoölogy.—This course is planned to serve the function of a seminar course in residence. Selected reading along different lines in zoölogy or general biology will be planned by the instructor, and topics for written theses and criticisms will be assigned. The following seminar courses will serve as a basis of choice: "Problems in Morphology and Phylogeny"; "Problems in Genetics and Experimental Evolution"; "The Biology of Sex"; "Experimental Embryology." If the student has a particular interest in some field not included under these heads, it may be possible to lay out a course of reading with theses. Prerequisite: at least two years of college zoölogy or its equivalent. (Informal.) Mj. or DMj. PROFESSOR NEWMAN.

For other courses for teachers of Science see pp. 67-68.

BOTANY

1. General Morphology of the Algae and Fungi (7).—This course consists of twelve exercises covering the ground of the laboratory work of the twelve weeks' course given at the University. The fifty types studied represent all the main groups of algae and fungi. In connection with a study of the structure, development, and relationships of the various forms, the principal problems considered are (1) the evolution of the plant body, (2) the origin and evolution of sex, and (3) parasitism, saprophytism, and symbiosis. This is pre-eminently a course for beginners, but it is also adapted to the needs of teachers who, though acquainted with the older style of botany, desire an introduction to the more modern phases of the subject. The material in many of the types is sufficient for a class of eight or ten students. An additional fee of \$2.50 is charged for the material and the loan of preparations. The applicant must have access to a compound microscope with a low- and a high-power objective, the latter preferably a $\frac{1}{2}$ 2 mm. Mj.

PROFESSOR CHAMBERLAIN.

2. General Morphology of the Bryophytes and Pteridophytes (8).—A course similar to the one on algae and fungi and requiring that course or its equivalent as a prerequisite. The structure, life-histories, and relationships of the liverworts, mosses, and ferns are studied in characteristic types. The principal problems considered are (1) the evolution of the sporophyte, (2) the reduction of the gametophyte, (3) heterospory, (4) alternation of generations, and (5) an introduction to modern phases of vascular anatomy. As in course 1, a compound microscope and skilfully stained preparations, involving a knowledge of micro-technique, are needed. Arrangements have been made whereby a limited number

may secure the material and a loan of the necessary preparations for \$5.00. No one should register without consulting the instructor. **Mj. PROFESSOR CHAMBERLAIN.**

3. General Morphology of the Gymnosperms and Angiosperms (9).—A course similar to the two preceding courses and requiring both of them (or their equivalent) as a prerequisite. Aside from a study of the structure and development of typical forms the most important features of this course are a study of vascular anatomy, floral development, spermatogenesis, oögenesis, fertilization, embryology, karyokinesis, and a brief survey of Engler's scheme of classification. A compound microscope is needed, as in courses 1 and 2. No one should register without consulting the instructor. Fee for material and the loan of the more difficult preparations, \$5.00. **Mj. PROFESSOR CHAMBERLAIN.**

NOTE.—Courses 1, 2, and 3 are designed to give the student a comprehensive view of the structure, development, relationship, and problems of the plant kingdom. These courses form the necessary foundation for all advanced work, whether the advanced work be morphology, physiology, ecology, taxonomy, or pathology. They are required of all who make botany their principal subject for the Bachelor's degree, and are required of all who make botany either the principal or the secondary subject for any higher degree. The development of a clear, bold style of scientific drawing receives attention in all of these courses.

4. Elementary Plant Physiology (2).—This course aims to give the student a general knowledge of the life-processes of higher plants and is introductory to the advanced courses in the subject given in residence. The work will consist of experiments illustrating the different topics, together with assigned reading in a standard textbook. It is adequate to meet the needs of high-school teachers. For the experimental work little more apparatus will be needed than that found in the physical and chemical laboratories of the average high school. A list of required articles will be furnished on application. Reports on both reading and experiments will be called for and will be returned with corrections. Anyone registering should realize that serious difficulties will be encountered unless some facilities for growing plants are at hand. This difficulty can be met by doing the work during the summer months. The student must consult the instructor before registering. **Mj. DR. EATON.**

5. Elementary Plant Ecology (3).—This course covers essentially the same ground as Coulter's *Plant Relations*, and does not necessarily require previous botanical training, though some work in plant analysis and in the study of plant structures is highly desirable. The object of the course is to present to the student the factors which influence the functions, form, and distribution of the common plants of his neighborhood. At first the different forms of leaves, stems, and roots are studied; then the plant is taken as a whole with respect to the advantages it possesses in the struggle for existence because of a particular structure—leaf, root, or stem. Under the subject of stems the identification of the common trees is required. The work may be carried on chiefly out of doors, and no microscope is needed. **Mj. ASSISTANT PROFESSOR FULLER.**

6. Plant Production in the United States (24).—This is chiefly a reading course of general nature dealing with the main physiological, educational, and economic factors influencing plant production in the United States. Several phases of the work involve simple experiments, but these call for little apparatus. Some of the topics considered are (1) a brief history of our knowledge of plant nutrition; (2) soils as influencing plant growth and production; (3) seeds and germination of seeds of economic plants and weeds; (4) water relations of plants; (5) synthesis of foods and their uses in plants; (6) reproduction and fertilization and physiology of budding and grafting. On the educational and economic side a brief history is given of the development of agricultural colleges, experiment stations, and extension work in the United States, especially the impetus given in these lines by national acts (Morrill, Hatch, and Adams acts and the Smith-Lever bill) and by the work of the General Education Board. In addition to the textbooks constant use will be made of various agricultural bulletins and other scientific pamphlets. In case the pamphlets cannot be obtained gratis they can be borrowed from the Correspondence-Study Department for a nominal

fee. This course should be attempted only by persons having a fair general knowledge of botany. It is designed to give teachers of elementary agriculture a thorough grasp of the principles underlying their subject. Mj. DR. EATON.

7. Elementary Forestry.—The principal subjects covered by this course are (1) the identification of trees by the use of keys and other helps; (2) the life-relations of trees, that is, trees as influenced by light, soil, temperature, wind, animals, and by the struggle for existence; (3) the composition and distribution of the forests of the United States; (4) some economic aspects of forestry, namely, the proper care and management of the forests, including plans for improvement cuttings, for reproduction, and for protection from fire. The object of the course is to impart an elementary general knowledge of forestry, including the forestry problem in the United States, and it is offered primarily to teachers in the belief that they can do much to influence public opinion in regard to one of the most important economic problems confronting the country. Textbooks are used, but whenever practicable they are supplemented by field exercises on some limited forested area selected by the student. Mj. ASSISTANT PROFESSOR HOWE.

8. Ecological Plant Anatomy (30).—This course is a continuation of course 5 and commands graduate credit. It involves a careful study of the absorptive, conductive, synthetic, protective, and storage tissues of plants in relation to their functions, with special attention to the variations of structure in so far as they depend upon changes in environment. Students electing this course should have a knowledge of elementary botany and be somewhat familiar with the use of the microscope. The student must have access to a good compound microscope, and if the work is to be done during the winter, access to a greenhouse is very desirable. Fee for materials and loan of slides, \$2.50. Mj. ASSISTANT PROFESSOR FULLER.

9. Field Ecology (36).—This course is designed primarily for those students who have taken residence courses in ecology and who desire to pursue further investigations along this line. The work consists very largely of systematic study in the field. A definite region or plant formation may be made the subject of study, or some problem may be selected in the ecology of plant structure or behavior. In case the work undertaken involves the use of special material and instruments it may be possible to borrow them from the University for a special fee. (Informal.) Mj. PROFESSOR COWLES OR ASSISTANT PROFESSOR FULLER.

10. Elementary Plant Anatomy.—A study of the tissues and tissue systems of vascular plants from the standpoint of phylogeny. This work is very different from the old anatomy in which facts were presented without any attempt to relate them to each other. The course deals with the morphology and evolution of the vascular system, and is based upon a comparative study of representative juvenile and adult forms of Pteridophytes, Gymnosperms, and Angiosperms. A microscope magnifying about four hundred diameters is necessary. An extensive knowledge of micro-technique is not essential. Directions for preparation of material and making of the necessary mounts will be given in the exercises. Fee for material and loan of slides, \$2.50. Mj. ASSOCIATE PROFESSOR LAND.

11. Methods in Plant Histology (4).—This course deals with the principles and methods of killing, fixing, imbedding, sectioning, staining, and mounting. The student must have access to a compound microscope magnifying at least four hundred diameters, a microtome, and some other apparatus and reagents. A fee of \$2.50 is charged for plant material which is not readily collected at all seasons. No one should register without consulting the instructor. Mj. ASSOCIATE PROFESSOR LAND.

12. Morphology of Fossil Plants (61).—This course consists of twelve exercises covering the ground of the laboratory and class work of the twelve weeks' course given at the University. The structure of extinct Pteridophytes and Gymnosperms, and their relation to living forms are studied. The student must have access to a compound microscope magnifying from about fifty to two hundred times. The necessary slides and photographs will be loaned for a deposit of \$7.50; this will be refunded when everything is returned intact, less \$2.50 for

carrying charges and the loan fee. Prerequisites: Courses 2 and 3 or their equivalents. Mj. ASSISTANT PROFESSOR NOÉ.

For other courses for teachers of Science see pp. 67-68.

HYGIENE AND BACTERIOLOGY

HIGH SCHOOL

1. An Introduction to Bacteriology.—This is primarily a culture course designed for those who do not want to go to the expense of setting up a laboratory. It consists of assigned readings and written work on the structure of bacteria, yeasts, and molds, and their relation to agriculture, foods, and infectious diseases. A few simple experiments with yeasts, molds, milk, and foods, that do not call for special apparatus, will be required. [This course commands admission credit only.] Mj. MR. WEETER.

COLLEGE

2. Bacteriological Methods (1).—The course treats of (1) laboratory methods for the preparation and sterilization of culture media; (2) methods of growing bacteria; (3) methods of staining bacteria; (4) microscopic and cultural studies of pure cultures; (5) the isolation and identification of bacteria from mixed cultures and from the human body; and (6) the bacterial examination of water and milk. In addition to the laboratory work, reports on the methods of studying bacteria and on the morphology and activities of the various types, particularly those concerned with agriculture, food and water supplies, and disease, will be required. The applicant must have access to a compound microscope with a low-power and a high-power objective, desirably with an oil immersion lens. If all the apparatus is purchased it will cost approximately thirty-five dollars exclusive of the microscope, but many of the parts can be extemporized. Course 1 is not a prerequisite. *Mj. MR. WEETER.

3. Public Hygiene (3).—This is a reading course exclusively. The following subjects are covered: dissemination of disease, preventive measures; hygiene of food, water, and milk supplies; housing; ventilation; personal hygiene, etc. Prerequisite: high-school chemistry and physiology, or zoölogy, or equivalent training. M. MR. WEETER.

4. Applied Bacteriology.—A series of courses designed for those interested in some particular branch of bacteriology, e.g., medical, sanitary, agricultural, etc.

A. Yeasts, Molds, and Acetic-Acid Bacteria.—A course designed especially for those wishing to prepare themselves for the practical use of bacteriology in fermentation industries. The general methods of studying this class of micro-organisms are studied and practical work proposed. *Mj.

B. Water and Water Supply (11).—This course considers sources of water supply, methods of water purification, and the disposal of sewage. The laboratory work includes (1) the bacterial analyses of water in accordance with the standard methods; (2) experiments on the chemical sterilization of water and sewage, the use of coagulants in purification, and the soap-consuming power of different waters; and (3) the bacterial examination of sewage. *Mj.

C. Sanitary Aspects of Food Supply (10).—This course treats of the bacteriology of foods—milk, milk products, eggs, meats—food preservation, adulteration, and particularly of their hygienic aspects. The laboratory work includes (1) practical examinations such as are used in the investigation and control of food supplies, and (2) studies of food micro-organisms. *Mj.

D. Bacteriological Examination of Soil.—An elementary course in soil bacteriology, giving the methods now in vogue for investigation of soil conditions. Some knowledge of chemistry is required. *Mj.

MR. WEETER.

* On account of the danger involved in handling bacteriological material and cultures of bacteria without careful supervision, exactly the same kind of work that is required of students in the residence courses cannot be demanded of those at a distance. Consequently the quantity of credit that can be allowed for these courses is variable—depending in large measure upon the quality of the work performed by the student after he has come into residence.

LIBRARY SCIENCE

1. Technical Methods of Library Science.—This is an elementary course designed especially for those who are already in library positions and are unable to leave for resident study. It deals chiefly with cataloguing and classification, but includes a few general lessons dealing with accessioning, shelf-listing, periodicals, loan systems, etc. It is felt that no library training can be complete without personal familiarity with the "tools" of the profession and modern methods of work. Hence it is hoped that students taking this course will find it possible later on to supplement the work thus begun by resident study at some library school. While credit is not given for correspondence courses in any such school, familiarity with library methods will make residence work easier for the student. As preparation for this course two years of college training or its equivalent is required. Practical experience in library work will count much in the applicant's favor. The course consists of twenty-four lessons. Mj. MISS ROBERTSON.

EDUCATION

EDUCATIONAL METHODS

1. Introduction to Education (1).—An elementary course designed to give a general introduction to the study of Education by scientific methods. The course is open to students who have completed a standard four-year high-school course, and also to mature experienced teachers who are not high-school graduates but who desire to advance in their profession by continued study. The aim of the course is to introduce the student to the problems of the school in a direct, concrete way, leading from the somewhat limited view of classroom experiences to the consideration of education in its larger aspects. The content of the course constitutes a general survey of education, covering such topics as: (1) the forms of organization through which the school is administered; (2) the organization of the curriculum and its relation to social needs; (3) the classification and progress of pupils, and (4) elements of classroom management and methods. The course is designed to give the student a general view of the whole field as a prelude to later more detailed study of its special divisions. Mj. ASSISTANT PROFESSOR BUSWELL.

2. Introduction to the Scientific Study of Education (2).—This is an introductory course similar in general organization to course 1, but open only to students who have had at least two years of college work. The purpose of the course is, first, to familiarize the student with the field of education through a general survey of its problems; and second, to acquaint the student with the methods and results of the scientific study of educational processes. More extensive reading is required than in course 1. Mj. ASSISTANT PROFESSOR BUSWELL.

3. Methods of Teaching in Elementary Schools (3).—It is the purpose of this course to survey the field of general methods in elementary-school instruction and at the same time to present these methods in such a way as to make them applicable to the individual problems of the teacher of any particular grade. Methods of classroom procedure are examined in the light of psychological principles and the results of the most recent experimental and statistical investigations. The principal topics are: (1) broadening purposes of elementary-school teaching; (2) economy in classroom management; (3) selection and organization of subject-matter; (4) a study of the learning process, with attention to the development and utilization of interest and the motivation of the work; (5) building on the pupils' past experiences; (6) drill; (7) differences in capacity. The discussion of general methods is supplemented by classroom observations and an analysis of the best current practice in the teaching of several elementary-school subjects. The newest literature in the way of monographs, texts on methods, and educational articles is used. By means of supplementary lessons special attention is given to superintendents wishing to perfect themselves in the technique of classroom methods. The course is designed to meet individual needs, as well as to prepare the student in a general way for an elementary-school position. Mj. MR. HARRIS.

4. Methods of Teaching in High Schools (4).—This is a course in general as distinguished from special methods of high-school instruction. It deals, therefore, with methods of teaching common to all high-school subjects or important groups of them. After a few preliminary lessons on the aims of high-school instruction, selection and arrangement of subject-matter, and business management in the classroom, the course continues with a detailed study of important types of learning involved in high-school subjects, such as: acquiring motor control, associating symbols and meanings, forming habits of reflective thinking, developing ability in verbal expression, and acquiring habits of literary enjoyment. Methods of drill are studied in relation to the foregoing types of learning. Among the remaining topics in the course the following are given special attention: individual differences, interests and economy in learning, supervised study, the use of books, laboratory methods, skill in questioning, and the measurement of educational results. Students are required to supplement their study of theory with several high-school observations and the solution of numerous practical problems. Mj. ASSISTANT PROFESSOR BREED.

THE HISTORY OF EDUCATION

5. History of Modern Education.—This course aims to trace in a general way the development of educational institutions in Europe and America since 1500. A brief survey of the schools of mediaeval Europe will be followed by a more detailed study of the social, religious, economic, and political factors that have determined the chief educational movements. Consideration is given to the various types of educational institutions established, their administration, support, curriculum, practices, methods, and ideals. This course is open to two classes of students: (1) those who have completed a four-year high-school program, (2) those with less formal training than those whose maturity and experience qualify them to engage in the work with profit.

A. Elementary.—In harmony with the principles just set forth the following topics will be studied: (1) the types of elementary schools existing in 1500; (2) the influence of commerce, of inventions, of written vernacular literatures, and the Reformation and Counter Reformation upon elementary education; (3) an account of the curriculum and methods which characterized elementary schools in America and Europe prior to 1800; (4) early attempts at reform, e.g., by La Salle and Lancaster; (5) the passing of education from clerical to public support and control in Germany, England, and America; (6) prominent reformers since 1750, notably Rousseau, Pestalozzi, Herbart, and Froebel. This course should appeal especially to superintendents, elementary-school principals, supervisors, and teachers, and should be of interest and value to all students of education. Full credit is given only to Junior College (i.e., first and second-year) students. M.

B. Secondary.—This course covers the same period as the preceding, but sets forth the salient points in the development of secondary education. Some of the topics treated are (1) Vittorino de Feltre as typical of the early Renaissance teacher; (2) Strum as exemplifying the teaching of the later Renaissance and the Protestant Reformation; (3) Loyola and the Catholic Counter Reformation; (4) the Latin grammar school in England and America; (5) Comenius and the movement directed toward widening the curriculum and improving the methods of teaching Latin; (6) Milton and the Nonconformist academies; (7) Franklin and the American academy; (8) the movement toward public support and control of secondary education, culminating in the American high school; (9) recent developments in manual training, junior high schools, technical education, etc. Superintendents, high-school principals and high-school teachers should find this course helpful in gaining a clearer conception of the development of education. It may be taken independently of or as supplementary to the preceding course. Full credit is given only to Junior College (i.e., first- and second-year) students. M.

MR. EDWARDS.

6. History of Modern Elementary Education (10A).¹—This course covers the same general field as 5A, but is designed for more advanced students, i.e., those of third- or fourth-year college grade. Some of the topics studied are: (1) the types of elementary schools developed in the late Middle Ages; (2) the influence of commerce, of the rise of cities, of written vernacular literatures, and of the Reformation and Counter Reformation upon elementary education; (3) early elementary education in America; (4) an account of the curriculum and methods which characterized elementary schools in America and Europe prior to 1800; (5) early attempts at reform, e.g., by La Salle and Lancaster; (6) the rise of scientific inquiry and the development of secular interests; (7) prominent reformers since 1750, notably Rousseau, Pestalozzi, Herbart, and Froebel; (8) the national organization of elementary education in Germany, France, and England in the nineteenth century; (9) the development of free state schools in the United States; (10) new conceptions and tendencies. For superintendents, supervisors, and elementary-school principals and teachers. M. MR. EDWARDS.

7. History of Modern Secondary Education (10B).¹—This course covers the same general field as 5B, but is designed for more advanced students, i.e., those of third- or fourth-year college grade. Chief stress will be placed upon the changes in secondary schools as a result of social needs and demands. Some of the topics treated are: (1) the Renaissance and humanism in education; (2) the Reformation and its results on secondary schools; (3) the Catholic Counter Reformation and the Jesuits; (4) the Latin grammar school in England and America; (5) development of science and realism in education; (6) the academy in England and America; (7) national organization of secondary education in Germany, France, and England in the nineteenth century; (8) the American high school; (9) new conceptions and tendencies. For superintendents, high-school principals, and teachers. It may be taken independently of or as supplementary to the preceding Minor. M. MR. EDWARDS.

8. Introduction to the History of American Education.—A brief review of European social and educational conditions in the sixteenth and seventeenth centuries, particularly in England and Holland, is made in order to secure a background for the study of American colonial conditions. The following topics are then studied: (1) the transplanting of European educational institutions and practices and their modification to meet colonial needs; (2) comparisons of general social conditions in the several colonies and the resulting contrasts in educational development; (3) the development of a few typical and contrasting state systems; (4) the influence of the development of the factory system and the growth of large cities during the nineteenth century; (5) secondary education; (6) teacher-training; (7) educational extension; (8) higher education; (9) agricultural education; (10) recent movements. This course should appeal not only to all administrators and teachers who desire to secure a preliminary survey of the development of education in America but also to general readers who may feel an interest in the growth of an institution which today involves the expenditure of about one-half billion of dollars annually. The content and method of the course have been influenced by the belief that the greatest service the history of education can perform is to induce executives and teachers to analyze their problems more intelligently in the light of past theories and practices. Actual schools and schoolroom practices will be stressed much more than abstract theory. Mj. MR. EDWARDS.

EDUCATIONAL PSYCHOLOGY AND EXPERIMENTAL EDUCATION

9. Genetic Psychology.—This course deals with the facts and conditions of mental development. It includes the growth of the capacities and instincts of the child due to his increasing maturity, and also those changes which are produced by training and which are commonly called learning. Among the topics treated are: (1) the nervous system and its development; (2) heredity and

¹ Registrations accepted after October 1.

environment; (3) play, interest, imitation, and independence; (4) speech; (5) social instincts; (6) development of skill and of perceptions; (7) memorizing; (8) problem-solving; (9) transfer of training; (10) mental hygiene. Mj. PROFESSOR ASHLEY.

10. The Psychology of School Subjects.—This course endeavors to apply psychological principles, as determined experimentally either in laboratory or classroom, to the problems which confront one in dealing with the subjects of our curricula. Effort is made to render the course as practical and helpful as possible; hence abstract and theoretical discussions will receive little attention. The actual learning process of the child's mind in gaining a comprehension of the branches of study will be emphasized. The following types of learning will be studied in considerable detail: (1) sensorimotor, (2) perceptual, (3) fixing of associations, (4) abstract thought. In all the work the aim is constantly to utilize psychology in the educational field in much the same way that mathematics is employed in the field of engineering. The instructor's belief is that principles, determined by scientifically controlled experiments, should form the basis of our educational practices.

A. Elementary-School Subjects (5).—The principles of learning are developed in order that they may throw light upon the problems of method involved in teaching, writing, drawing, reading, spelling, history, geography, music, mathematics, and the natural sciences. Attention is given also to the psychology of play, mental hygiene, and individual differences. Emphasis is placed upon analysis of the mental processes which are involved in the study of elementary-school subjects. The course will aid supervisors, principals, and teachers to gain a more intelligent comprehension of the way children learn. M.

B. High-School Subjects (6).—Undertakes a psychological analysis of the various high-school subjects and canvasses the proposals for the reorganization of these subjects and the reasons which have been advanced for such reorganizations. In addition to the psychology of each of the high-school subjects, the course considers the psychology of study, of individual differences, and of generalized experience. The course is designed for superintendents, principals, and teachers who wish to improve their ability to analyze, interpret, and criticize teaching, and to understand the proposals for the reform and development of high-school curriculum. M.

ASSISTANT PROFESSOR BUSWELL.

11. The Teaching of Industrial Arts (96).—This course is planned for teachers or supervisors of industrial arts and unit trade courses. Some time is given to a survey of the field with a view to fixing the point of view and developing the standards of work on the junior and senior high-school levels of instruction. An analysis is made of the teaching process in connection with industrial arts and trade courses. This analysis is made the basis for a discussion of (1) the teaching problems centering around the development of tool technique; (2) the carrying through of problematic work; (3) the organization of work on the productive shop basis; and (4) training for ease and facility in the use of reference material. Attention is given to the matter of standard scales and grading and checking systems. Professional literature of the subject is reviewed and liberal reference is made to that part of experimental psychology and general methods which bears on the problems of industrial arts and trade teaching. While the course is a general one dealing with drawing and shopwork in both junior and senior high schools, there is opportunity for special investigation along a single line to meet the need of those primarily interested in the teaching of a single unit. Mj. ASSISTANT PROFESSOR FILBEY.

12. Statistical Methods as Applied to Educational Problems (72).—This course aims in a threefold way to give the student thorough acquaintance with both theory and practice in the statistical treatment of educational material. (1) It organizes the statistical literature in such a way as to make clear the principal types of technique used in educational research; (2) it gives opportunity for the development of skill in the manipulation of those statistical methods which it is necessary to employ in the administrative and experimental problems in

education; (3) it will provide discussions and interpretations of the statistical methods employed in typical scientific studies in education. Data secured from concrete problems of school administration will be used as a basis for practical work in treating statistical measures. For graduate students and undergraduate students who have had teaching and administrative experience. Prerequisite: "College Algebra" unless excused by the instructor. Mj. MR. HOLZINGER.

13. Educational Measurements.—A general survey of the measuring movement in education for the superintendent, supervisor, teacher, or student of educational problems. A study of units and standards in measuring specific educational products. A brief historical perspective of the measuring movement; available tests and scales in the elementary- and high-school subjects; technique of giving, scoring, and tabulation; interpretation of results; determination of standards; use of results in improving instruction, diagnosis, selection, and guidance; scientific methods of experimentation; and a critical discussion of the validity of the tests and the determination of sound principles of design and method of construction. Assignments will include both reading and use of tests. Mj. MR. McCLUSKEY.

ADMINISTRATIVE AND SOCIAL ASPECTS OF EDUCATION

14. Educational Administration: Introductory Survey.—A general survey of the field of educational administration, designed to give the student a selected, technical bibliography of the field of school administration, and adequate acquaintance with typical problems of the field, and an introduction to the recent statistical and measuring methods of treating school problems. The larger topics taken up are (1) problems of school organization and administration—present conditions and established principles concerning school boards; (2) financing the public schools; (3) the business management of city schools, school accounting, and school costs, construction, operation, and maintenance of buildings, administration of supply department; (4) problems of the teaching staff—training certification, rating the efficiency of instruction, salary schedules; (5) problems centering around the pupil—elimination, retardation, and acceleration, grading and classification, promotion systems, methods of grading student work, teachers' marks; (6) brief perspective of the measuring movement in education—standard tests, scales, school surveys; (7) miscellaneous topics—the school census, school records and reports. Mj. MR. McCLUSKEY.

15. Elementary-School Administration and Supervision (40).—This course is for principals and supervisors of elementary schools and for superintendents in the smaller cities. It includes a study of these topics: (1) the school building and its equipment; (2) time allotments and daily schedules; (3) the nature and scope of elementary-school supervision; (4) standards to be applied; (5) specific supervision problems in the various subjects of instruction; (6) departmental teaching; (7) the progress of pupils through the grades; (8) the fast and the slow child; (9) the use of standardized tests; (10) the use of statistical material; (11) the junior high school; (12) schools for special classes of pupils; (13) school records; (14) standards of efficiency and the grading of teachers; (15) selection of teachers; (16) tenure, salaries, and promotion of teachers; (17) the faculty meeting; (18) the school and the community; (19) meetings of parents and teachers to discuss school questions. The administrative officer ought to gain from this course fuller comprehension of the nature of the problems which his school presents and a knowledge of the means for their solution that are being used successfully elsewhere. The course involves making a study of the student's local school. Mj. MR. GILLET.

16. High-School Administration (36).—This course is planned for high-school principals, for teachers interested in the administrative aspects of the high school, especially those looking toward a principalship, and for superintendents. It deals with: (1) the practical problems of secondary school administration including the junior-high-school and junior-college organizations; (2) the use of grades and statistical studies as tests of efficiency and as instruments for the improvement of

instruction; (3) the latest developments in intelligence testing with its application to the proper placement of pupils; (4) the co-ordination of departmental organizations; (5) the making of curricula and programs; (6) faculty organization with particular attention to the faculty meeting; (7) classroom management and the supervision of the teacher's work; (8) discipline; (9) social organization; (10) a detailed survey of the field of supervised study; (11) moral instruction and training. Special attention is paid to office administration records and control of attendance; sample forms for these aspects of administration being furnished. Supplementary material is included for principals interested in organizing for Smith-Hughes courses. The aim is to relate the course definitely to actual "present-day" conditions in public high schools. Mj. MR. HARRIS.

17. The Junior High School Movement (38).—This course deals with problems in the organization and management of the Junior High School. It begins with general discussions of the need of reorganizing the subject-matter and methods of instruction in the upper grades and of the advantages and disadvantages of the plan. Then follows a brief consideration of the history and extent of the movement. Considerations determining the course of study, together with investigation of leading type programs, are followed by intensive investigation of modifications in English, history and civics, modern languages, mathematics and science, vocational studies and electives. Students are allowed to select parts of the curriculum upon which they wish to concentrate their efforts. Finally, attention is given to problems of social organization, and to administrative problems like promotion by subjects, supervised study, and differentiated assignments, the qualifications of teachers, the choice of textbooks, etc., appropriate to innovating intermediate school procedure. Mj. ASSOCIATE PROFESSOR LYMAN.

18. Principles of Secondary Education.—The course will discuss education as training for social efficiency, the intellectual, social, physical, and moral elements in education; adolescence; the high-school curriculum; the practical arts in secondary education; electives; the downward and the upward extension of the high school; "the many-sided interest"; sending boys and girls to college. The student will be expected to make a study of schools in his neighborhood and to make reports upon these schools in relation to the general topics studied. Mj. PROFESSOR BUTLER.

19. A Comparative Study of Foreign School Systems (41).—This course will be devoted mainly to a study of the schools in England, France, and Germany. It will trace the historical development of the existing systems of elementary and secondary education as an expression of the religious, social, and industrial ideals that have dominated the people, with especial emphasis upon the influence on public education of ecclesiasticism, humanism, realism, and nationalism. For purposes of comparison special studies will be assigned upon other systems of education in Europe and tendencies toward reorganization of education in the Orient. Mj. PROFESSOR BUTLER.

20. General Principles of Fine and Industrial Arts in Education (56).—This course is planned for students of general education who are interested in knowing the place which the fine and industrial arts should occupy in public education, and also for special teachers of art who are interested in discussions of the general principles which underlie art education. It includes a study of such topics as: (1) the present status of drawing and its relation to other school subjects, especially to language, science, and the practical arts; (2) some of the simpler elements of pictorial composition; (3) drawing as the language of the fine arts, and ways of using it so as to develop artistic appreciation; (4) the place of the practical arts in public education and their relation to the traditional school subjects; (5) methods of teaching design as suggested by its historical development and by present social and industrial demands. The discussions deal mainly with the arts in elementary and high schools. This is a course in education and no technical skill on the part of the student is required. Prerequisite: 3 Majors in Education. Mj. PROFESSOR SARGENT.

21. Industrial Education in Public Schools (57).—This course is planned for teachers or supervisors of industrial education, for superintendents and

principals, and for others interested in the organization and administration of industrial courses. The first part of the course considers the modern industrial situation, with sufficient attention to historical development to indicate the trend of present-day conditions. The remainder of the course is devoted to a discussion of educational provision on the various levels of instruction to meet this industrial situation. Especial study is made of (1) prevocational work on the junior high school level; (2) unit trade courses in the senior high school; and (3) continuation, co-operative, apprentice, evening, and factory schools. The material of the course will be definitely related to practical problems of the community in which the individual student works. Mj. ASSISTANT PROFESSOR FILBEY

22. Vocational Guidance (59).—The course includes a survey of the development of various efforts which have been made within and without the schools to secure a more rational adjustment between educational institutions and the usual vocational experiences of young people as they leave school and enter occupations. The purpose of the course is to encourage school officers and teachers to forward this movement by bringing to their attention illustrative examples of vocational guidance in the public schools of the United States. Such topics as guidance, placement, employment supervision, vocational analysis, analysis of personal characteristics, cumulative school records, vocational-guidance surveys, and vocation bureaus will be discussed. Special attention will be given to the relation between industrial education and vocational guidance. The student will have his attention called to the literature of the subject, classified as follows: (1) that discussing the need of vocational guidance in view of existing conditions; (2) that describing modern industrial conditions; (3) that discussing the introduction of vocational guidance into public-school systems; (4) that illustrating the kind of guidance literature which may be put into the hands of pupils; (5) that dealing with the methods of analyzing an occupation; and (6) that discussing the analysis of personal characteristics. The course is especially adapted to the needs of superintendents, principals of high schools, and those planning to fit themselves for vocational counseling. Mj. ASSISTANT PROFESSOR FILBEY.

METHODS IN DIFFERENT SUBJECTS

KINDERGARTEN-PRIMARY

1. Primary-School Methods: Reading and Language (3).—A course for kindergartners and for teachers and supervisors in the primary grades which discusses the principles and methods involved in the teaching of reading, oral and written composition, spelling and writing in the first three grades. Special attention is given to: (1) the relation of these subjects to the others in the curriculum; (2) the teaching of reading to beginners; (3) the materials and procedure followed in teaching incidental reading; (4) the teaching of phonics; (5) examination of reading texts for the primary grades; (6) the kinds of composition, i. e., individual, group and co-operative; (7) types of these written by the pupils of the University Elementary School; (8) materials and motivation for composition work in the primary grades; (9) the basis for the selection of spelling words; (10) method of teaching spelling; (11) spelling tests; (12) content of the early writing lessons; (13) considerations affecting second- and third-grade writing; (14) the standards for judging hand-writing. Mj. MISS STORM.

HISTORY AND OTHER SOCIAL SUBJECTS

2. Community Life, History, and Civics in the Primary Grades (4).—This course is for teachers and supervisors in the kindergarten and primary grades. It aims: (1) to show the principles upon which subject-matter should be selected for the children of the lower grades; (2) to assist the teacher in outlining a course of study; (3) to give practical help in the method of presenting the topics to children; (4) to show the relation which the community life bears to other phases of the program, as reading, language, literature, number, etc. The following topics are included: the home, farm life, Indian life, shepherd life, colonial history, social history, and civics. Mj. MISS STORM.

3. The Teaching of History in the Upper Elementary Grades and the Junior High School (11A and 11B).—This course deals with both the technique of

teaching history in these grades and the organization of material for teaching purposes. General and special methods of procedure, the history recitation, teaching pupils to study history and the use of the textbook receive special attention. Emphasis is also placed on selecting, organizing, and standardizing historical material adapted to these grades: for example, the maps to make, reference books to use, dates and historical personages to know, and the maps, the charts, and the illustrative material to buy. **Mj. ASSOCIATE PROFESSOR TRYON.**

4. The Teaching of History in the Secondary School (12).—This course will consider the high-school history recitation, teaching pupils to study history, the topical, the textbook, the source, and the problem methods, collateral reading problems, course and lesson planning, teaching current events in connection with history, and notebook and written work. It will be of interest to actual and prospective teachers of history in secondary schools. **Mj. ASSOCIATE PROFESSOR TRYON.**

5. The Teaching of the New Civics, Community Life, and Current Problems in Elementary and High Schools (30).—This course deals with the content, organization, and use of material from the fields of civics, economics, sociology, and political science for teaching purposes in elementary and high schools. Some attention is given to the present trend of and recent progress in teaching the social subjects, to library and laboratory equipment, and to special methods of procedure. Certain selected topics are treated in detail as examples of method. The utilization of social-science material for English Composition is discussed and illustrated. Special effort is made to present the subject so as to enable teachers to adapt the work to the needs of the class room. **Mj. MR. HILL.**

HOME ECONOMICS

6. Costume Design.—This course is planned for upper-grade and high-school work and gives a good working knowledge of the fine qualities in raiment which express in best terms the mental and physical character of individuals. It establishes standards for judging and presenting the principles underlying drawing, structural design, and color in their direct and corrective application to costume. It discusses historic types, present-day fashions, and the needs of the individual. The technical work includes sufficient practice in drawing for the expression of ideas. **Mj. MISS CLARK.**

7. Household Design.—This course presents the subject by means of theory and practice simplified to meet the problem of the average citizen of average income. It presents the principles underlying the use of color and of structural and decorative design, and calls for sufficient illustration to insure a clear understanding of the basis for judgment. It discusses practical and aesthetic values regarding the home, exterior and interior, and, in a general way, civic environment and historic types. Teachers interested in upper-grade and high-school drawing should consider the possibilities for broader interpretation and application to life-needs in the subject of Household Design. The technical work includes sufficient practice in drawing and construction to enable the student to record ideas. **Mj. MISS CLARK.**

LATIN

Training Course for Teachers of Latin.—(Cf. description under Latin 23.)

FRENCH

Problems of Teaching French.—(Cf. description under French 10.)

ENGLISH

English Grammar for Teachers.—(Cf. description under English 35.)

8. The Teaching of English in Elementary Schools (14 and 16 condensed).—Considers primarily tendencies in the reorganization of subject-matter and of methods of teaching both oral and written composition including spelling and grammar, together with reading and literature for grades 4 to 8 inclusive. A survey course, attempting to correlate activities in all of the various phases of English work for upper-grade teachers. **Mj. ASSOCIATE PROFESSOR LYMAN.**

9. English in the Junior High School (13).—This course endeavors to give a comprehensive view of problems associated with the conduct of English in the junior high school. Special consideration of the curriculum suitable for grades 7, 8, and 9. Various topics are: (1) organization of English in leading schools; (2) reforms in teaching grammar; (3) minimum essentials securing co-ordination; (4) content reading; (5) graded classes; (6) special classes; (7) vocational guidance through English; (8) socialization of English classes. Mj. ASSOCIATE PROFESSOR LYMAN.

10. The Teaching of English Composition in Secondary Schools (7).—Deals with the general problems of composition in the high school looking toward the establishment of laboratory methods in the place of "recitation." Among the topics considered are the following: aims, organization, criticism of themes, standardization, assignments, etc. The student is put in touch with the best books on teaching English, and is enabled to use his own classroom as a laboratory for the exercises and experiments required. The course is designed to co-ordinate closely with the daily duties of a person engaged in teaching. Prerequisite: 2 Majors in composition or the equivalent. Mj. ASSOCIATE PROFESSOR LYMAN.

11. The Teaching of English Literature in Secondary Schools (80).—A survey course considering such topics as the reform movement, the modern point of view, the organization of the course of study, the basis of method, the teacher's preparation, etc. Adapted, as is course 10, to the activities of the student's own classroom. This course does not review the literature usually taught in the high school; it considers such material only as an approach to various methods of instruction. Prerequisite: 2 Majors in literature or the equivalent. Mj. ASSOCIATE PROFESSOR LYMAN.

12. Special Problems in the Teaching of English (83).—Students properly qualified may carry on investigations and experiments in connection with their own English classes, either in elementary or in high schools. In consultation with the instructor, students will set up definite problems, specific methods, and measurements. The final outcome will take the form of complete studies, one or more, according to the nature and difficulty of the undertaking. Suggested problems are (1) classification of pupils in ability groups; (2) weighted assignments; (3) study of reading interests; (4) supervised study; (5) a program of co-operation; (6) teaching English by projects, etc. Mj. ASSOCIATE PROFESSOR LYMAN.

MATHEMATICS

GROUP I. The following group of courses is for teachers, actual or intending, who desire to raise their efficiency in conducting *standard* courses in the public elementary and high schools.

13. The Teaching of Arithmetic.—The following topics are studied in this course: (1) the findings of scientific studies in arithmetic; (2) methods in arithmetic and their history; (3) the teaching of primary arithmetic; (4) the fundamentals for whole numbers and fractions; (5) percentage and interest and their application and mensuration. Some work will be given in the study of occupations. Speed, accuracy, drill, and problem-work are studied from the teaching standpoint. The course presupposes a fair knowledge of subject-matter. Mj. PROFESSOR MYERS.

14. The Teaching of Secondary Mathematics.—This course covers the general theory of the teaching of the conventional secondary branches. Subject-matter is treated only in so far as needed to exhibit method, organization, and modern tendencies.

A. Algebra (eMath. 2A).—Deals with the aims, values, matter, methods, and results of algebra teaching. It considers present tendencies, principles of correlation, criteria for selecting subject-matter and textbooks; also with supervised study, standards of attainment, the recognition of individual differences, with study helps for pupils, etc. It gives some attention to the problem of judging teaching. Mj.

B. Geometry (eMath. 2B).—Treats the educational aims and values of geometry teaching, the problems of choosing matter and methods, and deals with the original exercise as an agency for developing both reproductive and productive ability. Attention is also given to the questions of teaching how to study and how to employ applied problems in geometry. Mj.

PROFESSOR MYERS.

15. The Teaching of College Algebra, Trigonometry, and Analytics.—A good academic knowledge of these subjects is required for admission to this course. The following topical enumeration will suggest the nature of the questions considered: (1) the purpose of college algebra, trigonometry, and analytics in the curriculum of the college: (a) viewed from the teacher's standpoint, (b) viewed from the student's standpoint; (2) method of teaching these subjects as determined by this purpose; (3) the correlation idea as applied to Freshman college mathematics; (4) the laboratory method in Freshman college mathematics; (5) use of graphical work early and all along; (6) applications of these subjects in teaching them; (7) dangers of this teaching becoming too abstract; (8) order and sequence of special topics. Any recent text in each of these subjects will answer. Mj. PROFESSOR MYERS.

16. Teachers' Course in the History of Mathematics.—This course is designed specifically for teachers in elementary and high schools. It views history primarily as a source of method and teaching technique. It emphasizes the bearings of historical development upon matter and methods of teaching and upon types of organization, and points out profitable aims and values for mathematical study. The general history is surveyed rapidly down to modern times, which may be taken as the date of the introduction of printing (1450 A.D.). Then is given in turn a synoptic history of arithmetic, of elementary algebra, and of elementary geometry. The attempt is to give an appreciation of the factors and agencies that have significantly affected the evolution of mathematics as an educational instrument. Some consideration is given to ways of employing historical knowledge in teaching. Mj. PROFESSOR MYERS.

GROUP II. This group of courses is for actual and intending teachers in situations in which conditions are flexible and admit of following more nearly ideal plans and of using more psychologically justifiable matter and methodology than *standard* courses of study in public schools presuppose or admit.

17. The Teaching of Elementary-School Mathematics (1).—This course is based on a good knowledge of the subject-matter of arithmetic, and some acquaintance with algebra and geometry. It includes a critical study of (1) the content, (2) the organization, and (3) the methods of presenting mathematics to grade pupils. The curriculum is critically studied from grade to grade, with a view to determining the best type of work for the modern elementary public school. Some attention is given also to testing the results of arithmetic teaching. Mj. PROFESSOR MYERS.

18. The Supervision of Arithmetic (3).—The course deals with the theory and practice of supervision of standard arithmetic work in seven- and eight-grade public elementary schools. Sample topics of study are: (1) the grade distribution of arithmetical topics; (2) time allotment; dominance of methods; (4) sequence in teaching the tables; (5) oral work; (6) drill; (7) problem-work; (8) judging texts; (9) socializing arithmetic; (10) program-making, etc. The course is designed for general supervisors, normal-school supervisors, principals, and superintendents. Mj. PROFESSOR MYERS.

19. Mathematics for the Junior High School.—This course is designed to aid in preparing teachers for the type of service called for in mathematics in the new administrative unit known as the Junior High School. It outlines the principles and purposes that underlie the Junior High School movement, so far as they relate to mathematics, indicates the type of teaching needed, gives some aid in acquiring the type, and formulates a course of study appropriate to the

new demands. It also includes a survey of such textural material as is available at present. Mj. PROFESSOR MYERS.

20. Teachers' Course in Unified Mathematics.—A treatment of the essentials of mathematics usually taught in the first two years of the high school extended to include a full four-year high-school program in mathematics. The subjects, algebra and geometry, are related to each other and to other topics not usually treated in the first two years. Thus trigonometry is introduced in the second year leading to the solution of the right triangle and simple trigonometric equations. The course serves as a review from the point of view of the teacher, it suggests methods of presenting the subject-matter to high-school classes, and brings the teacher into close touch with modern ideas and methods. It presents the work under the aspect of unified mathematics.

A.—Comprises the work of the first high-school year in general or unified mathematics. Central emphasis is here upon algebra, with related arithmetic and geometry. The subject-matter considered is equivalent to that for a knowledge of which the first unit of entrance credit is given. Mj.

B.—Reorganizes the work of the second high-school year into the form of general or unified mathematics. Central emphasis is here upon geometry. Considerable algebra and trigonometry are associated with the central theme. The subject-matter considered is equivalent to that for a knowledge of which the second unit of entrance credit is given. Mj.

C.—Carries forward the plan in A and B and covers the work of the third and fourth years. It continues and completes a four-year high-school course in general or unified mathematics. Mj. PROFESSOR MYERS.

21. Psychology of Number.—The work of this course requires a good knowledge of the subject of arithmetic and some power of abstract thought. Questions having to do with the psychological genesis and growth of the number concept are examined. The psychologic grounds for and against the ideas which have dominated pedagogic method in the elementary mathematics are critically examined. The variable unit conception of number is studied with special care. The purpose of the course is to make teachers of elementary mathematics clearly conscious of the function of this subject in elementary education, thereby rendering this practice immune from contagion of shallow mechanical devices as methods of training the number faculty of children. Mj. PROFESSOR MYERS.

22. History of Mathematics (5).—This course is intended to put the student in possession of a knowledge of the most fruitful epochs and of the most salient influences of mathematical history; to make him more keenly appreciative of the fact that his science is and always has been a growing science, to inform him that the attitude of mind exhibited by the works of the great mathematicians is most conducive to progress today—in short, to assist the mathematical student to identify himself more intelligently with those men and movements which are making for mathematical advance at the present time. Mj. PROFESSOR MYERS.

GEOGRAPHY

23. Geography for the Primary Grades (1).—The purpose of this course is to discuss the place and subject-matter of geography for little children. It will cover materials to be used, field work to be done, correlations that are essential, and methods that deal specifically with this subject. Mj.

NATURAL SCIENCE

24. Elementary Science: Plant and Animal Life (1).—In practically all the recent surveys the reports emphatically recommend the introduction of more extensive and better organized work in science; especially is there increasing demand for the adequate presentation of the practical phases of elementary science in the grades. Science teaching to be effective must begin with a first-hand knowledge of out-of-door things. The teacher accustomed to use books as

¹ May be available later in the year.

her chief means of instruction is at a loss to know how to proceed in this new type of work. This course aims to give her detailed directions as to materials and methods to be used, and to impart the proper attitude of mind so essential to successful work in science in the grades. Detailed instructions are given for the study of common trees, flowering plants, seeds and seedlings, some spore-bearers; the familiar birds, insects, animals of pond and stream, and some of the animal companions of man. Much of the work required consists of out-door studies of plants and animals. Only persons willing to put in considerable time in field work can complete this course. These studies are outlined so that the directions given will serve for grade pupils, with a minimum of alteration. Readings are assigned covering a discussion of aims and methods, of the simple life-processes of animals and plants, their habits, structures, and the relations of common living things to man. **Mj. ASSOCIATE PROFESSOR DOWNING.**

25. The Teaching of General-Science Courses (10).—This course is planned for teachers of ninth-grade general science and of Junior High School science. Detailed study of the following phases of the subject is made: (1) the conditions in secondary science which led to the introduction of general-science courses; (2) arguments for and against general science; (3) aims in general-science courses and their relation to the present-day aims of education; (4) selection and organization of units of instruction and of a course of study; (5) analysis of present textbooks and outlined courses; (6) sequence of courses in secondary science; (7) methods of instruction; (8) laboratory equipment, illustrative material, and supplementary reading material; (9) written work in general science and methods of grading; (10) the formulation, use and value of tests for measuring results of instruction in general science. **Mj. MR. PIEPER.**

DRAWING AND PAINTING

NOTE.—The courses below, except "Elementary Drawing and Painting" and "Elementary Design," are considered technical courses. A technical course commands college credit only when accompanied or supplemented by two theoretical courses that form with it a consistent group.

26. Elementary Drawing and Painting (6).—All teachers would like to be able to draw. Most teachers in the elementary schools are expected to teach drawing. This course aims to present the subject of drawing and painting in such a way that at its completion the student will understand how to teach drawing to children and will also have some dexterity in the art. The degree of skill attained in both will depend somewhat upon natural ability and previous training, but neither is demanded by this course. The course discusses the place of drawing in the elementary schools, its relation to other subjects, suitable problems for the various grades, and methods of presentation. **Mj. MISS WHITTIER.**

27. Elementary Design (20).—All teachers want to know "How" and "When" to present a subject. All students desire to know "Why" a subject is presented. This course aims to answer the "How," "When," and "Why" of teaching design in the elementary schools. It is planned to meet the needs of kindergarteners, grade teachers, art teachers, and all who wish a good working foundation in design. It discusses suitable problems and presents methods of teaching design to children in the elementary schools. It is not primarily a technical course, and previous knowledge of the subject is not essential. The number of lessons in each group will vary according to the student's expressed needs; that is, the emphasis may be upon methods of teaching, technique, or the history of design. **Mj. MISS WHITTIER.**

28. Illustration.¹—A course planned for kindergarteners and primary teachers. It includes a study of the following topics: (1) illustrations in children's books; (2) illustrations for familiar stories; (3) pictorial composition; (4) blackboard sketching. **Mj. MISS WHITTIER.**

29. Structural Design.¹—A course planned to meet the needs of all interested in the following subjects: cardboard and paper construction; wood-work; metal-work; claywork; textiles. The emphasis is upon the structural side, but a minimum amount of decorative design is discussed. Prerequisite: course 27 or its equivalent. Mj. MISS WHITTIER.

An introductory course, *Freehand Drawing*, and three series of courses, **A. Mechanical Drawing**, **B. Architectural Drawing**, **C. Descriptive Geometry**, afford opportunity to begin the study of drawing and to continue it to a point where knowledge of higher mathematics—e.g., calculus, mechanics, etc.—conditions further progress. “Freehand Drawing” with any one of the series offers what is usually done in the first two years in the best technological schools. While open to anyone they will appeal especially to those who wish thorough training in the fundamentals of the science, whether for immediate practical purposes in the office, shop, or classroom, or as a preparation for Mechanical, Electrical, and Civil Engineering, or for Architectural Drawing.

One may take any Major in any one of the three series for which he is prepared, though in most cases it will be found advisable, if not necessary, to begin with the first Major. Admission to any Major except the first one of a series is conditioned upon the approval of the instructor, who will base his decision upon a statement and exhibit of previous work. The University reserves the right to retain one drawing from the student's set in each Major and to determine whether admission or college credit shall be allowed.

The materials required in any Major will be sent, express collect, upon receipt of the amount specified, which is the lowest that can be quoted for a good quality. The weight of the materials and the price of the textbook will enable the student to determine the approximate cost of each Major.

Material required in “Freehand Drawing.”—Six sheets of Whatman's cold-pressed paper, 22×30 inches; 8 sheets of chalk-talk paper, 14×20 inches; 3 Koh-i-noor pencils, 3H; 1 pencil-eraser, No. 211; 1 dozen thumb tacks, steel-stamped $\frac{3}{8}$ inch diameter; 1 box of French charcoal; 1 bottle of fixatif, two-ounce; 1 tin atomizer; 1 box “Star” chalks, six assorted colors; 1 drawing-board, 18×24 inches; and models of different solids.

Material required in courses A1, 2, 3, 4, 5; B2, 3, 4, 5; and C1, 2, 3, 4.—One drawing-board, 18×24 inches; 1 set drawing instruments in folding pocket-book-style case; 1 T-square, mahogany, ebony-lined fixed head, 24 inches; 1 amber triangle, 45°, 8 inches; 1 amber triangle, 30°×60°, 10 inches; 1 triangular boxwood rule, architect's, 12 inches; 1 flat boxwood scale, 6 inches, divided $\frac{1}{16}$ and $\frac{1}{32}$; 1 French amber curve, No. 1; 1 dozen sheets of Whatman's hot-pressed paper, 22×30 inches; 6 Koh-i-noor pencils, assorted, 3H and 6H; 1 bottle each of Higgins' carmine, black, and blue ink; 1 dozen thumb tacks, steel-stamped, $\frac{3}{8}$ inch diameter; 1 Faber's pencil-eraser, No. 211; 1 Faber's ink-eraser, No. 2604; 1 Hardtmuth's soft pliable rubber, No. 12; 1 file, 4 inches; 1 penholder; 3 ball-pointed pens.

30. Freehand Drawing.¹—A course preparatory to each of the series described below except the second, in which it is required. It gives that thorough training of the eye and hand which is so necessary in all work requiring accuracy in observation and measurement. While this is primarily its purpose, the course offers the work required in most of the public schools of the country preparatory to teaching Freehand Drawing. Although it does not deal with the pedagogy of the subject it provides a practical and pedagogically correct working basis in this subject, and can be recommended, therefore, to all grade teachers and to others who are expected to teach Freehand Drawing in connection with their special work. The course embraces the following divisions: (a) *Freehand Projection*—to familiarize the student with the various views of an object and their proper arrangement upon the sheet, by which all the facts of size, form, and proportion are shown, together with perspective sketches of the object, 6 drawings;

¹For credit value see note on page 68.

(b) *Model Drawing of Type-Forms*—outline sketching, in perspective, of the cube, cylinder, and other geometrical solids, introducing the principle of perspective as applied to small objects, 6 drawings; (c) *Model Drawing, Groups*—outline drawings of solids and other objects to teach composition and perspective, 6 drawings; (d) *Light and Shade*—pencil studies of the type solids and original groups of objects, to give practice in obtaining quick effects in black and white, 6 drawings; (e) *Color Work*—color studies with chalks, to teach an appreciation of surface, texture, and the proper juxtaposition of colors as applied to groups of objects, 6 drawings; (f) *Pen-and-Ink Studies* of single objects and original groups, involving outline, light and shade, texture, surface, etc., 6 drawings; in all, 36 drawings. No textbook is required. Cost of materials ready for shipment, \$5.00 subject to advance in price; weight of package, 18 pounds. Mj. Mr. FERNON.

31. A—Mechanical Drawing.¹

1. *Projective Geometry*.²—(a) Preparatory work: this includes the use of instruments, laying out, penciling, inking-in, lettering, with practice work to learn accuracy of measurement and of line, 3 drawings. (b) Graphic geometry: this is intended to give the student a mastery of the various geometrical constructions which form the basis of all work in projection, descriptive geometry, and constructive drawing, whether mechanical or architectural, and at the same time to give facility in the use of the instruments, 6 drawings. (c) Projection: this will include the projection of points, lines, planes, and solids, 6 drawings; in all, 15 drawings. Textbook: Linus Faunce's *Mechanical Drawing*, \$1.75 net. Cost of materials ready for shipment, \$25.00 subject to advance in price; weight of package, 18 pounds. Mj. Mr. FERNON.

2. *Constructive Drawing*.²—(a) Intersections, including conic sections, oblique sections, intersections, and developments, 6 drawings. (b) Shadows: the first angle projection of shadows, 3 drawings. (c) Isometric projections with projections of shadow, 3 drawings. (d) Oblique or cabinet projection, 3 drawings; in all, 15 drawings. Textbook and equipment for this course same as for A1. Prerequisite: course A1. Mj. Mr. FERNON.

3. *Machine Details*.—This course is intended to familiarize the student with the various parts of machines that have come to be recognized as standards and which are used in the construction of new machines. Standard sections for materials, fastenings, couplings, bearings, engine details, etc., 10 drawings. Textbook: Low and Bevis' *Manual of Machine Drawing and Design*, \$3.50 net. The equipment for A1 will suffice for this course also. Prerequisite: course A2. Mj. Mr. FERNON.

4. *Gear Construction*.—Spur-gears, bevel, spiral, worm, elliptic, involute and cycloid teeth, hubs, arms, rims, etc., 10 drawings. Textbook: George B. Grant's *Teeth of Gears*, \$1.10 net; equipment, same as for A1. Prerequisite: course A3. Mj. Mr. FERNON.

5. *Shop Drawing*.—(a) Freehand sketches with measurements of some piece of machinery; front view, side view, and 2 sheets of details; 4 drawings; (b) mechanical drawings from the above; 4 drawings; (c) tracings from the mechanical drawings; 4 sheets; (d) a freehand perspective sketch, in pen and ink, of the machine used; in all, 13 drawings. No textbook is required. Equipment is the same as for A1. Prerequisite: course A4. Mj. Mr. FERNON.

32. B—Architectural Drawing.¹—This series gives the student a good working knowledge of the essentials in architecture; history, the orders, the principles of the designing of dwelling-houses, office work in rendering, perspective, and detailing, together with tracing and blueprinting. As the success of the student in architecture is so completely dependent upon his knowledge of and practice in all the departments of freehand drawing and sketching, it is absolutely essential that the introductory Major, "Freehand Drawing," should be taken first, so it is made the first Major of the series.

¹ For credit value see note on page 68.

² These two majors together are equal to Drawing 30.

1. *Freehand Drawing*.—Mj. MR. FERSON.

2. *Projective Geometry*.—Same as A1. Mj. MR. FERSON.

3. *Constructive Drawing*.—Same as A2. Mj. MR. FERSON.

4. *Architectural Details*.—(a) "The Orders," 10 drawings; (b) details of architectural construction from measurements, 2 drawings; in all, 12 drawings. Textbooks: Hamlin's *Architectural History*, \$2.25 net, and Ware's *American Vignola*, Part I, "The Orders," \$2.50 net. Equipment for this course same as for A1. Prerequisite: course B3. Mj. MR. FERSON.

5. *Architectural Design*.—(a) Domestic plans, from copy, 6 drawings; (b) design of some small building, 5 drawings; (c) tracings and blueprints, 5 tracings with their prints; in all, 16 drawings. No textbook is required. Equipment, same as for A1. Prerequisite: course B4. Mj. MR. FERSON.

33. **C—Descriptive Geometry.**¹—This series is for those who wish to go into the higher mathematics, but have had no training in the graphic side of the subject. It consists of:

1. *Projective Geometry*.—Same as A1. Mj. MR. FERSON.

2. *Constructive Drawing*.—Same as A2. Mj. MR. FERSON.

3. *Theoretical Graphics*.—Problems in points, lines, planes, and straight-surfaced solids; 15 drawings. Textbook, Church and Bartlett's *Descriptive Geometry*, \$2.25 net; equipment, same as for A1. Mj. MR. FERSON.

4. *Practical Graphics*.—Curved and warped surfaces, shades and shadows, developments; 15 drawings. Textbook, same as for C3; equipment, same as for A1. Mj. MR. FERSON.

COMPARATIVE RELIGION

1. **An Outline History of Religions (7).**—The aim is to lead the student to acquire an appreciation of the function of religion in the development of the life of the race. The course will include a treatment of method in the study of religions; the nature of religion in primitive groups and the rise of religious ideas and forms; a survey sketch of the development of religion in China, Japan, Babylonia-Assyria, Israel, and Judaism: the religions of the Indo-Europeans—India, Iran, Greece, and Rome. While problems for research will be pointed out and difficulties noted the main purpose will be maintained—to secure a general knowledge of what religion has meant in the lives of the various sections of the human race in the past and what it means under the changed conditions of our modern world. Mj. ASSISTANT PROFESSOR HAYDON.

OLD TESTAMENT LITERATURE AND INTERPRETATION

AND

ORIENTAL LANGUAGES AND LITERATURES

ELEMENTARY

1. **The Origin and Religious Teaching of the Old Testament Books.**

2. **Messages of the Prophets.**

[NOTE.—The foregoing two elementary courses command no credit and do not require matriculation. Registration for them must be made with the Secretary of the American Institute of Sacred Literature of the University of Chicago who will send full information on request.]

COLLEGE

3. **An Introduction to the Old Testament.**—This course aims to give both a general introduction to the Old Testament and a special view of the books of the Old Testament. It describes succinctly: (1) the historical background of the Old Testament books; (2) how the old records were written, compiled, and edited; (3) how they have been transmitted to us; (4) the present literary

¹ For credit value see note on page 68.

character of each book; (5) its most prominent teachings; and (6) workable methods of solving its problems. The lessons are planned on a practical basis and aim to give students a reasonably full idea of the new and real advances that have been made in the last few decades in understanding the Old Testament. Mj. PROFESSOR PRICE.

4. Elementary Russian.

A (301).—After a general study of the declensions and conjugations, texts supplied with extensive notes will be taken up and mastered. Mj.

B. (302).—Continues the study of texts with review of inflectional forms. The vocabulary will be enlarged by the study of roots and suffixes; elementary composition; extensive syntax study. Mj.

ASSOCIATE PROFESSOR HARPER.

ADVANCED

5. *Outline of Hebrew History*.—This course condenses the treatment of Old Testament *history* given in courses 20, 21, and 22 in residence. It provides a survey of the history of the Hebrew people as presented in the Old Testament from the period of the conquest and establishment in Canaan to the Maccabean struggle and the close of Old Testament history. The course embraces a preliminary sketch of the patriarchal period, with a more detailed study of the conquest, the period of the Judges, the united and divided kingdoms, the exile, the revival of Judah, and the beginnings of Judaism. The bearings of prophetic activity upon the history and literature also receive consideration. Mj. MR. HENRY.

6. *Historical Development of Old Testament Literature*.—This course condenses the treatment accorded Old Testament *literature* in courses 20, 21, and 22 in residence. It begins with a very brief survey of the origins of the Hebrew people and their cultural heritage from the past, then takes up the existing Old Testament literature in the order of its production and studies each portion as to (1) the historical circumstances of its origin, (2) its relation to similar literary productions of related peoples, (3) its authorship, (4) its literary form, and (5) its purpose. The course involves the careful reading of the Babylonian creation and flood stories, the Hammurabi Code of Laws and all the more important contemporary literary products, and aims to make the student conversant with the constructive results of the most recent historical research. Although this course has no technical prerequisites, a knowledge of Hebrew history as outlined in course 5 will be helpful. Mj. MR. HENRY.

7. *Old Testament Prophecy*.—The purpose of this course is to aid in securing a better understanding of the rise and development of prophecy in Israel. Some of the more important matters to be considered are (1) the controlling ideas in the teaching of each of the great prophets; (2) the relation of the prophet and his work to the political and social movements of his day; (3) the attitude of the prophet toward the priest and priestly institutions; (4) the place of prophecy in the preparation for the work of Christ. Mj. MR. HENRY.

8. *Old Testament Worship*.—A study of the element of worship and the institutions and literature connected with worship in the Old Testament. Special consideration will be given to such topics as (1) the priest; (2) place of worship; (3) sacrifice; (4) feasts; (5) tithes; (6) clean and unclean, etc.; (7) the origin and character of the Sabbath; (8) the date and character of Deuteronomy; (9) the origin of the Levitical legislation; (10) the composition of the Hexateuch. Attention will be given to the characteristic ideas of the priest as distinguished from those of the prophet and to the growth of priestly influence in Israel's religious life. Mj. MR. HENRY.

9. *Elementary Hebrew* (70).¹—Includes the mastery of the Hebrew of Genesis, chaps. 1-3; the study of the most important principles of the language in connection with these chapters; Hebrew grammar, including the strong verb and

¹Registration accepted after October 1.

weak verbs; some practice in the translation of English into Hebrew. The lessons have been re-written to conform to the newly revised and simplified edition of the Harper textbooks and will enable earlier students in this course to familiarize themselves with the latest developments in this field. Mj. MR. HENRY.

10. Intermediate Hebrew (71).¹—Continues the foregoing course and prepares the student to undertake the reading of the historical prose books of the Old Testament. Mj. MR. HENRY.

11. Historical Hebrew (72).¹—A sequent to "Intermediate Hebrew." Critical translation of easier prose sections of I Samuel, Ruth, and Jonah with the elements of Hebrew syntax. Completion of this course will enable the student to begin reading the prophetic literature. Mj. MR. HENRY.

12. Elementary Arabic.

A (200).—Lessons based on Thatcher's *Arabic Grammar* (in French by Armez, in German by Harder) and inductive study of a simplified form of the "Tale of King Shahryar and His Brother" (the opening tale of the *Arabian Nights*) will present to the student the alphabet, the elements of orthography, the inflection of pronouns, nouns, and adjectives, common prepositions and adverbs, the strong verb, and the fundamentals of syntax. Mj.

B (201).—Continues A, the "Tale of the Ox and the Ass" (the second tale of the *Arabian Nights*) and easy fables and anecdotes. The weak verb, numerals, adverbs, and particles are studied, and the elements of syntax are presented with the exercises. Mj.

C (202-212).—The student has the choice of six selections for more rapid reading from (1) Ibn Khallikān's *Biographical Dictionary*; (2) Ath-Tha 'labī's *Stories of the Prophets*; (3) the prose sections, chiefly biographical, of the *Kitāb al-Aghānī*; (4) historical works of Ibn Athīr, Abulfeda, Ibn Qutaiba, at-Tiqtaqa, at-Tabarī, etc.; (5) modern tales, novels, etc.; (6) the Bible in Arabic. These selections will be read from *Chrestomathies* or handbooks, which may be procured by the student. The grammar by Wright (3d ed.) and a hand lexicon, in the order of preference either Hava's (Arabic-English), or Belot's (Arabic-French), or Steingass' (Arabic-English), or Wortabet's (Arabic-English), or Wahrmond's (Arabic-German), should be in the hands of the student. Readings from Nicholson's *Literary History of the Arabs*, or Huart's *Arabic Literature*, or both, will be assigned in connection with the texts studied. MacDonald's *Muslim Theology, Jurisprudence, and Constitutional Theory* should be read in its entirety in connection with this course, as it will lay the foundation for the understanding of technical terminology of various kinds and historical and other references. Mj.

ASSISTANT PROFESSOR SPRENGLING.

13. Advanced Arabic.—Instruction will be adapted to (1) the practical needs of consular and other government officials, mercantile and professional pursuits, or missionary labors, or (2) those having philological, literary, scientific, historical, or artistic work in view. The student must consult the instructor before registering. Mj. ASSISTANT PROFESSOR SPRENGLING.

14. Literature and History of the Arabs.—Courses for students not conversant with the Arabic language are in preparation. Inquiries concerning work of this nature may be addressed to the instructor. ASSISTANT PROFESSOR SPRENGLING.

15. Elementary Assyrian (170, first half).—The cuneiform text as well as the transliteration is used from the beginning. The student learns the most common cuneiform signs, the strong verb and all classes of weak verbs, and the fundamental principles of the language. A knowledge of Hebrew is prerequisite. M. PROFESSOR BERRY.

16. Intermediate Assyrian (170, second half).—This includes the reading of several hundred lines of historical cuneiform text, with special attention to

¹ Registrations accepted after October 1.

vocabulary, a further study of Assyrian grammar, including syntax, and the learning of most of the remaining cuneiform signs that are in frequent use. Mj. PROFESSOR BERRY.

17. Elementary Egyptian (250).—A beginning course based on a study of (1) the tale of the Shipwrecked Sailor (as transliterated from the hieratic), and (2) the autobiography of the nobleman Amen. The commonest signs will be mastered along with the grammatical usages of the classic period. Mj. DR. ALLEN.

18. Advanced Egyptian (252).—The historical inscriptions of the Eighteenth Dynasty will be studied, using Sethe's *Urkunden*. Mj. PROFESSOR BREASTED.

Members of these Departments will endeavor to arrange informal courses for students who are prepared to do work of an advanced nature, whenever practicable.

NOTE.—Related courses are offered in History and General Literature.

NEW TESTAMENT AND EARLY CHRISTIAN LITERATURE

ELEMENTARY

1. Origin and Religious Teaching of the New Testament Books.
2. Jesus of Nazareth.
3. The Message of Jesus to Our Modern Life.

[NOTE.—The foregoing three elementary courses command no credit and do not require matriculation. Registration for them must be made with the Secretary of the American Institute of Sacred Literature of the University of Chicago who will send full information on request.]

COLLEGE

4. Introduction to the Books of the New Testament.—This course considers the historical conditions and the occasions under which the literature of the New Testament was produced. It treats each of the writings as a separate problem endeavoring to show the time and place of its composition as well as its many purposes. Students will be asked to make an analysis of the various books and also to become thoroughly conversant with the course of history which led to the compilation of the New Testament. Mj. PROFESSOR SEVERN.

5. The Religion of Jesus (111).—Through a comparative study of the four gospels (in English) the student is led to appreciate the attractiveness and creative power of Jesus' personality; to work out for himself the actual content of Jesus' profound convictions; and to systematize Jesus' thought for practical use. Mj. ASSISTANT PROFESSOR MERRIFIELD.

6. Elementary New Testament Greek.—A course for beginners, presupposing no knowledge of Greek. It is based on Harper and Weidner's *Introductory New Testament Greek Method*. The outlines give the student full directions for the work. The aim of the course is to secure inductively a mastery of chapters 1-4 of the Gospel of John and the essential facts of the language. Emphasis is placed upon vocabulary, forms, and principles, and upon the writing of exercises in Greek. Careful study will enable one to acquire the pronunciation of the language and ability to translate simple Greek into idiomatic English. Mj. PROFESSOR SEVERN.

7. Intermediate New Testament Greek.—This course is designed for those who have completed course 6 and for those who wish to review their Greek in connection with the New Testament. It comprises the thorough study of the entire Gospel of John and the reading at sight of the First Epistle of John; also the acquisition of vocabulary and the most general principles of grammar. One who has diligently worked through this course should be able, with the aid of the lexicon, to read the New Testament with comparative ease. Mj. PROFESSOR SEVERN.

ADVANCED

8. Beginnings of Christianity (1).—A sketch of political, economic, cultural, and religious conditions among both Jews and Gentiles from the Maccabean revolt (167 B.C.) to about 180 A.D., including Jewish political history and the conditions of life in Palestine and during the Dispersion. Especial emphasis will be placed upon the rise and early development of the Christian movement, treating such topics as the work of John the Baptist and of Jesus, the history of Christianity in Palestine, the career of Paul, growth of Christianity during postapostolic times, Gnosticism, and the early apologists. A prescribed course. (Identical with Church History 1.) Mj. PROFESSOR CASE.

9. Jewish History in the Time of Jesus (3).—The Jewish people in the Roman Empire; geography, population, and languages of Palestine; influence of Hellenism; political events and parties; industrial, social, and intellectual life; religious groups and institutions; moral and religious ideas. An introduction to the study of the life and teaching of Jesus. Mj. PROFESSOR VOTAW.

10. Life of Jesus (5).—A historical study of Jesus' purpose, method, message, deeds, and personality. The forty lessons treat of the characteristics of the gospels as historical sources, Jewish messianism, Jesus' aim and method in his ministry, the parables, the miracles, the Christology of the gospels, and the historical significance of Jesus. Mj. PROFESSOR VOTAW.

11. The Teaching of Jesus (71).—The four gospels are taken as sources for ascertaining the teaching of Jesus. Topical, comprehensive study of the content of Jesus' teaching. Development of Jesus' religious experience and ideas. Aim, limits, style, and method of his teaching. Mj. PROFESSOR VOTAW.

12. Life of the Apostle Paul and Introduction to the Pauline Epistles (2).—This course is based on that portion of Burton and Merrifield's *Origin and Teaching of the New Testament Books* which deals with the Pauline literature. Study outlines are furnished by the instructor, giving in detail the materials for study and the work to be done in each assignment. The aim of the course is to help the student to acquire a comprehensive knowledge of the life of Paul, to know his letters in the circumstances of their origin and in their teaching, and to appreciate the apostle's personality and his contribution to the Christian movement. Mj. PROFESSOR SEVERN.

13. Introduction to the Gospels, Acts, and General Epistles (2).—Includes a study of the occasion and purpose of each book and its general content and structure. Mj. PROFESSOR SEVERN.

14. The Ethical Teaching of the New Testament (91).—The moral ideal of Jesus on the basis of the Sermon on the Mount supplemented by material from other portions of the gospels. The specific principles set forth by Jesus and the application which he made of them to his own life and to the conduct of others. Similarly, the moral ideal of Paul, with its principles and applications. Mj. PROFESSOR VOTAW.

15. The Greek of the New Testament (41).—Using the Gospel of Mark, a thorough study is made of the syntax of New Testament Greek. Prerequisite: courses 6 and 7 or equivalent instruction in classical Greek. Mj. PROFESSOR VOTAW.

16. The Apostolic Fathers (39).—The course includes a study of (1) the early Christian literature, ca. 95–150 A.D.; (2) problems of date, authorship, and purpose; (3) reading of the Greek; and (4) studies in theology and polity. Outlines of the literature will be provided, and reports covering the topics given above will be required. The later development of New Testament ideas and practices, as reflected in this early Christian literature, will be especially emphasized. Mj. PROFESSOR SEVERN.

SYSTEMATIC THEOLOGY

ELEMENTARY

1. Realities of the Christian Religion.

[NOTE.—The foregoing elementary course commands no credit and does not require matriculation. Registration for it must be made with the Secretary of the American Institute of Sacred Literature of the University of Chicago who will send full information on request.]

COLLEGE

2. Outlines of Christian Theology.—An introductory study of the fundamental doctrines of Christian faith, with special reference to their historical origin and their place in modern religious life. The course commands undergraduate credit only, and cannot be counted toward the D.B. degree. Mj. PROFESSOR G. B. SMITH.

3. The Characteristics of Modern Christianity.—A course intended to give an intelligent appreciation of the main ideals and conceptions which enter into the constructive religious thinking of the day, and to show how these find their place in modern Christianity. It is designed primarily for non-professional students but it furnishes a good survey for ministers who have not had a graduate course in theology. It commands undergraduate credit only, and cannot be counted toward the D.B. degree. Mj. PROFESSOR G. B. SMITH.

ADVANCED

4. Systematic Theology.

A (1).—Introduction, discussing the task and method of systematic theology in the light of modern conditions and setting forth the Christian doctrine of God. Mj.

B (2).—The Christian doctrines of sin, salvation, and the person and work of Christ. Mj.

C (3).—The Christian life. The religious and ethical implications of the Christian experience including the doctrines of sanctification, eschatology, and Christian ethics. Mj.

PROFESSOR G. B. SMITH.

5. Christian Ethics (8).—This course sets forth the moral aspects of the Christian religious experience. The Christian moral ideal is compared with the various ethical ideals expounded by moral philosophers. The ethical ideal of Jesus is carefully studied with suggestions as to the method of determining duty in the various fields of human activity. An analysis of the important social problems of today serves to call attention to the field of constructive Christian activity. Mj. PROFESSOR G. B. SMITH.

6. Apologetics (9).—This course is intended to acquaint the student with the general outlines of a defense of Christianity. In the first place the content of Christianity which must be defended is sought on the basis of a historical study of the sources and history of Christianity. The ultimate elements of Christian faith are then defined and justified in the light of modern thought. Questions and topics suggested by the required textbooks are to be discussed in written papers by the student. Prerequisite: course 4 or an equivalent. Mj. PROFESSOR G. B. SMITH.

7. The Theological Significance of Leading Movements of Thought in the Nineteenth Century.—Modern idealistic philosophy, the theological principles of Schleiermacher and of Ritschl, the development of biblical criticism, the growing influence of natural science, the rise of the philosophy of evolution, and the significance of the Pragmatist movement are the chief topics for study. The problems raised for theology by these movements will be carefully considered. Those taking the course should have access to an adequate library or should be willing to incur considerable expense for books. Prerequisite: course 6 or its equivalent and a general acquaintance with the history of modern philosophy. (Informal.) DMj. PROFESSOR G. B. SMITH.

NOTE.—Related courses are offered in Philosophy, Psychology, and Sociology.

CHURCH HISTORY

COLLEGE

1. Outline of Church History.—This course will discuss the development of church institutions under the influence of the Roman Empire, the rise of the papacy, outstanding features of medieval church life, the Crusades, the growth of dissent, Humanism, the changes effected by the Reformation, the rise of modern denominations, and the influence upon the church of nationalism, commerce, and democracy. Mj. ASSISTANT PROFESSOR MODE.

ADVANCED

2. Beginnings of Christianity (1).—A sketch of political, economic, cultural, and religious conditions among both Jews and Gentiles from the Maccabean revolt (167 B.C.) to about 180 A.D., including Jewish political history and the conditions of life in Palestine and during the Dispersion. Especial emphasis will be placed upon the rise and early development of the Christian movement, treating such topics as the work of John the Baptist and of Jesus, the history of Christianity in Palestine, the career of Paul, growth of Christianity during postapostolic times, Gnosticism, and the early apologists. A prescribed course. (Identical with New Testament 8.) Mj. PROFESSOR CASE.

3. The Ancient Church (2).—A survey of the progress of Christianity's expansion with the Roman Empire from the second to the sixth centuries, noting the persecutions, the rivalry with other religions, the status of Christians socially and politically, the process of centralization and unification, internal developments, the growth of the church as an institution, the decline of the imperial state church, and the transition to conditions in medieval times. Mj. PROFESSOR CASE.

4. The Period of the Reformation (3).—This course presents the decisive steps by which Europe passed from medievalism into the early stages of modernism. It includes the Reformation in Germany and German Switzerland; Calvin and his work at Geneva; the establishment of Protestantism outside of Germany and Switzerland; separate reformatory movements such as the Anabaptists and Socinians. As a powerful reactionary movement the Counter-Reformation will be taken into careful consideration. Mj. ASSISTANT PROFESSOR MODE.

5. The Development of Modern Christianity (4).—The Thirty Years' War; Puritanism and independency in England; Presbyterianism in the Netherlands and Scotland; Pietism and Moravianism in Germany; the Jansenist struggle; the Wesleyan revival in Britain; the rise of missionary societies; the church and the French Revolution; the Oxford movement; Roman Catholicism in the nineteenth century; a survey of significant features in American Christianity. Mj. ASSISTANT PROFESSOR MODE.

PREACHING AND PARISH MINISTRY

ELEMENTARY

For the courses in English composition see pages 35 ff.

COLLEGE

1. Sermon Making (1).—The character of the sermon is defined in the light of its purpose. The sources of material are studied and suggestions made for the gathering of sermon matter and its arrangement in proper form. The major divisions of the sermon are discussed and suggestions made for its proper delivery. The second half of the course calls for the preparation of sermon plans by the student and the complete writing of one or more discourses. Mj. PROFESSOR DAVIS.

Forms of Public Address (cf. description under English 12, page 38).

ADVANCED

2. The Use of the Bible in Preaching (S16).—In this course the Bible is regarded as the primary source of material for sermons. Selected passages covering all types of biblical literature are studied. Sermon plans are developed and the principles of interpretation are practically applied. Mj. PROFESSOR DAVIS.

3. The Organization of Church Work (20).—This course is a study of the task of the church according to the different denominations. By studying the actual work of a series of churches the student will build for himself a plan and program for internal organization, work, and worship. Such matters as the church constitution, the officers and committees with their duties, the co-ordination of all auxiliary bodies within the church, the relation of the church to civic and welfare organizations will be studied for the purpose of getting the information necessary for the building of one's own program. Each student will make a careful study of a local parish and prepare a year's program for the same. Mj. ASSOCIATE PROFESSOR ARTMAN.

RELIGIOUS EDUCATION

COLLEGE

1. Religious Education in the Modern Family.—This course deals with the family as an agency of training for a better society; it discusses in detail the educational function of the family and its possibilities and problems in moral and religious training. It is designed for parents, ministers, leaders of parents' clubs and classes, social workers, and teachers of adult classes in the church school and considers among other topics, the social place and problems of the modern home, the methods of social and religious training in the home, dealing with moral crises, children's lies, story-telling, reading, worship in the home, problems of money, work, sex instruction, and social standards. Instruction is by means of textbooks, and, in the discussion of problems, it follows very largely the case method, at all points being designed to give both the fundamental principles of character formation in the home and to offer help on its practical difficulties. Prerequisite for university credit: "Introductory Psychology" or "Genetic Psychology" or equivalent training. Mj. DR. COPE.

2. The Modern Sunday School.—This course discusses in detail some of the concrete problems of the modern graded Sunday school: (1) principles of organization; (2) characteristics and needs of children and youth; (3) the learning process; (4) graded organization; (5) the work of the departments; (6) graded curricula; (7) methods of service activity; (8) methods of survey; (9) methods of observation work; (10) social life; (11) worship; (12) extension into week-day work. The course is planned to enable every student to understand his own school problems and to develop practical plans based upon the experiments and results of advanced workers. Instruction is by means of textbooks, topics for special study, reports on local observation, and lesson outlines which guide the student in his study of these problems. The course will be of special value to superintendents, lay workers, and pastors who wish to learn more of the best Sunday-school methodology. Anyone who has had high-school training can pursue the course with profit. Prerequisite: if university credit is desired, "Introductory Psychology" or an equivalent course. Mj. DR. COPE.

3. Bible Story-Telling.—This course will consider (1) the story as a medium of moral and religious instruction; (2) the Bible as a source book for stories of men of high ideals, character, and force; of the origins of Judaism and Christianity; of Jesus and his followers in the first century; of men of fifteen centuries whose ideals influenced not only their own, but succeeding generations; (3) the selection of stories ready for telling; (4) the construction of stories from scattered biblical passages; (5) principles of selection and presentation of stories in different grades of the Sunday school, the day school, the library, or other fields;

(6) local practice of story-telling upon which reports and criticism will be exchanged; (7) the dramatization of Bible stories. A course for persons engaged in religious education, or for story-tellers in libraries, or day schools, or other groups. Mj. MISS CHAMBERLIN.

ADVANCED

4. Principles and Methods of Religious Education.—The course is an adaptation of course 30 in residence. It provides a general introduction to the field of religious education. At the outset the religious life and its place in human development are defined, and the aim of religious education is made clear. This leads the student to investigate the neighboring fields of psychology and education to discover their contributions to the subject. The moral and religious development of the growing child is considered genetically, and examination is made of available material to determine its value in the various stages of child life. Various methods of conducting organized groups of young people are considered, with special attention to boys' clubs and young people's societies, and the special opportunities of the home, the public school, and the church are indicated. Other community factors are discussed and a basis of co-ordinating all agencies is formulated. Mj. PROFESSOR WARD.

5. Development of the Religious Life (50).—This course seeks to discover the nature of religion according to organic social psychology; the function of religion in the development of dependable conduct; the nature and function of ceremonials, ritual, prayer, worship; the comparative value of revivalism and religious education as methods of stimulating the development of religious control. Mj. ASSOCIATE PROFESSOR ARTMAN.

Psychology of Religion (cf. description under Psychology 6, page 15).

NOTE.—Related courses are offered in Philosophy, Psychology, Education, and Sociology.

The University of Chicago

FOUNDED BY JOHN D. ROCKEFELLER

A N N O U N C E M E N T S

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CORRESPONDENCE-STUDY DEPARTMENT

1922-1923



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MARGARET TRAVIS, A.M., Extension Associate in Spanish.

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JOHN HORACE RANSOM, Extension Assistant in Physics.

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AMY RACHEL WHITTIER, Instructor in Design, Normal Art School (Boston).

III. GENERAL INFORMATION

Extra-mural Teaching.—It is the function of the Correspondence-Study Department to direct work done by students who are unable to attend exercises held at the University.

1. Teaching by Correspondence.—Experience has shown that many subjects can be taught successfully by correspondence. Direction and correction can often be given as effectively in writing as by word of mouth. Obviously self-reliance, initiative, perseverance, accuracy, and kindred qualities are peculiarly encouraged and developed by this method of instruction.

2. Purpose and Constituency.—Through the Correspondence-Study Department the University offers a large number of the courses given in the classrooms of its different divisions so that those whose formal schooling has been interrupted may continue their studies. The aim is to extend as fast and as far as possible the means and privileges of academic training. Besides contributing to culture, many of the courses, because of their bearing on problems of everyday life, may be turned to immediate practical account.

The courses appeal especially to the following classes: (1) students preparing for college or professional schools; (2) college students who are unable to pursue continuous residence study; (3) grammar and high-school teachers who cannot avail themselves of resident instruction; (4) instructors in higher institutions who desire assistance in the advanced study of some subject; (5) professional and business men who wish to supplement their training; (6) ministers and Bible students who would fit themselves better to use the Scriptures; (7) parents uncertain how to deal wisely with their children—in short, anyone anywhere who desires broader knowledge or more thorough scholarship.

3. Method of Instruction.—Each correspondence course is designed to be equivalent to the corresponding residence course and contains therefore a definite amount of work. A Major (Mj.) calls for an amount of work which a student in residence would be expected to accomplish in twelve weeks, meeting his instructor five hours a week. A Minor (M.) is half a Major. The resident student who does full work completes three Majors every three months, but the correspondence student is allowed from twelve to fifteen months, according as he registers late or early in the quarter, for completing whatever number of Major or Minor courses he pays for. On the other hand, he is permitted to finish courses as rapidly as is consistent with good work (cf. § 6, c and g). Courses are of two kinds, formal and informal.

a) The "formal" course furnishes a systematic and progressive presentation of the subject in a given number of lessons (cf. § 6, o). Each lesson contains (1) full directions for study, including references to the textbooks by chapter and page; (2) necessary suggestions and assistance; (3) questions to test the student's methods of work as well as his understanding of the ground covered. After preparing for recitation the student writes his answers to the questions and mails them to the instructor, together with any difficulties which may have arisen during his study. This recitation paper is promptly corrected and returned. In like manner every lesson is carefully criticized by the instructor and returned, so that each student receives *personal guidance and instruction* throughout the course.

b) The "informal" course is designed for students who are pursuing studies of an advanced nature. The course is usually arranged between instructor and

student to meet the particular needs of the latter. The formal lesson-sheet is dispensed with, but the course is carefully outlined by the instructor, and the student is required to present satisfactory evidence that the work is being properly done. This evidence may consist of a number of short papers on special themes, a thesis covering the whole work, or it may partake rather of the nature of ordinary correspondence. Courses are "formal" when not otherwise indicated.

4. Admission.¹—(a) No preliminary examination or proof of previous work is required of applicants for correspondence courses. Before matriculating or registering a student, however, the University does require certain information and reserves the right to reject applicants, or to recommend other courses than those chosen, if the data furnished on the application blank justify such action. If the applicant is rejected or the substitution recommended is not accepted by the student, all fees are refunded. The application blank will be supplied upon request. *In every case it should accompany the fee for a new course.*

b) A correspondence student whose standing in one of the Colleges or Schools of the University has not been determined is ranked as an *unclassified student*.

5. Recognition for Work.—(a) A certificate is granted for the satisfactory completion of the recitation work in any Major or Minor course.

b) Admission credit is given for courses covering college-entrance requirements which are satisfactorily completed and passed by examination (cf. § 6, h).

c) College credit is given for courses of a college grade satisfactorily completed and passed by examination (cf. § 6, h).

d) If the student has a record of residence work in the University, credit gained through correspondence courses is immediately transferred to that record; if not, it is held in the Correspondence-Study Department until the student secures such a record.

e) See also "Regulations" (a) and (b) below.

6. Regulations.—(a) The University of Chicago grants no degree for work done wholly in absence. A *minimum* of nine Majors (three full quarters) in residence at the University of Chicago is an unvarying requisite for any degree.

b) Correspondence courses are applicable to the requirements for the different degrees as follows: (1) The candidate for a Bachelor's degree (A.B., Ph.B., or S.B.) may do eighteen of the required thirty-six Majors of college work by correspondence. (2) The candidate for the medical degree (M.D.), or for the law degree (LL.B. or J.D.), or for the Master's degree (A.M. or S.M.) may not reduce the requirements for his degree *in absentia*, because the University gives no instruction in Law or Medicine by correspondence, and the maximum resident time and study requirement for the Master's degree does not exceed the minimum requirement (nine months and nine majors) for any degree. (3) The candidate for the Doctor's degree (Ph.D.) may substitute correspondence for residence work *only* on approval, in advance, of the head of the department in which his work lies. Three years of resident graduate study are expected for this degree. Very few non-resident students command the necessary library or laboratory facilities for graduate study.

NOTE.—The University of Chicago's Bachelor degree, or its full equivalent, is prerequisite for admission to candidacy for a Master's or a Doctor's degree. If a student presents a baccalaureate degree inferior to the University's degree by less than nine (9) Majors, he can make it equivalent by means of correspondence courses of a Senior College grade and thus be free to devote his entire time in residence to graduate work.

¹ If the student later comes to the University he must satisfy admission requirements (see *Circular of Information* of the Colleges and Graduate Schools, pp. 24 ff.).

c) A student may begin a course for which he is prepared at any time, but he may not take more than three Majors during any period of three months nor more than one Major in any period of one month. His reports must be distributed with approximate evenness throughout the period of study. Reports may be refused by the secretary or by the instructor in the course concerned if the student attempts to compress his work unduly.

d) An undergraduate student may not carry on correspondence work while in residence.

e) A student is expected to complete all the courses for which he pays at any one time *within one year from the end* (i.e., March 23, June 23, September 23, December 23) of the quarter in which payment is made.

f) A student who, for any reason, does not report either by lesson or by letter within a period of ninety days may thereby forfeit his right to further instruction in the course.

g) Extension of time will be granted (1) *for a period equal to the length of time which a correspondence student spends in resident study at the University of Chicago*, provided due notice is given the secretary and the instructor at both the beginning and the end of such resident study; (2) *for twelve months from the date of expiration of the course* if, on account of sickness or other serious disability, the student has been unable to complete the course or courses within the prescribed time (cf. § 6, e), provided (a) he secures the consent of the secretary and his instructor, and (b) pays \$5.00 for each Major course or \$2.50 for each Minor course he wishes to continue. Private arrangement for extension of time between the student and his instructor cannot be recognized by the Department.

h) In order to secure credit for a correspondence course, the student must pass an examination on it within six months from the end of the quarter in which he finishes the recitation work either at the University or, if elsewhere, under supervision which has been approved by the University.

i) During an instructor's vacation a substitute will be provided or the time for completing the course will be extended.

j) The fee for matriculation in the University (\$10.00) is required once, at the time of first registration, of each one who has not matriculated in the institution either as a resident or a correspondence student. The fee is general for the whole University.

k) The matriculation fee will not be refunded to a student whose application has been accepted (cf. § 4, a).

l) The tuition fee will not be refunded on account of a student's inability to enter upon or to continue a course.

m) The student must forward with each lesson a stamped self-addressed envelope for its return.

n) A student will be required to pay for but one Major of a Double Major (DMj.) course at a time unless he applies for both Majors.

o) Ordinarily a Major consists of forty and a Minor of twenty lessons; but there may be variations from these numbers in order to accommodate the work to the requirements of a particular course. Each course represents a definite amount of work (cf. § 3), the number of lessons into which it is divided being incidental.

p) A course announced as a Major may not be taken a Minor at a time.

g) Each correspondence course is equivalent to the corresponding residence course, and commands credit (cf. § 5) unless statement is made to the contrary.

7. Expenses.

a) All fees are payable in advance.

b) The matriculation fee is \$10.00 (cf. § 6, j); the tuition fee for *each* Minor course is \$9.50; for one Major course, \$19.00. If a student pays *at the same time* for two Major courses the tuition fee is \$36.00; for three Major courses, \$50.00. No reduction is made for Minor courses included in a combination. The tuition fee includes payment for the instruction sheets received. Books which cannot be borrowed (cf. § 10) must be purchased by the student. Ordinary textbooks are not loaned.

c) The student is required to inclose a stamped self-addressed envelope with each lesson for its return (cf. § 6, m).

d) Money should be sent in the form of postal or express order or New York or Chicago draft, made payable to the University of Chicago. The Chicago clearing-house charges exchange on all other forms of remittance—15 cents on sums up to \$50.00.

8. Method of Registration (recapitulated).—(a) Forward to the Secretary of the Correspondence-Study Department a formal application for *each* course desired, with the appropriate fee: (1) \$10.00 for matriculation, if not matriculated in the University (cf. § 6, j); (2) \$9.50 for each Minor course, or \$19.00, \$36.00, or \$50.00, according as one, two, or three Major courses are applied for; (3) an additional fee for certain courses in the sciences.

9. Scholarships.

The scholarships heretofore awarded for successful correspondence-study work have been abolished. Those earned through registration effected prior to June 23, 1921, must be used before December 23, 1923.

10. Books, etc.—For the convenience of students arrangements have been made through the usual channels of the University whereby supplies, such as books, maps, etc., which are needed in the different courses can be furnished at prices which will be quoted on application to the Correspondence-Study Department. Sometimes *books of reference* (but not textbooks) may be borrowed from the University libraries for periods not to exceed four weeks. Applications for loans should be addressed to the Director of Libraries of the University of Chicago.

IV. THREE PROGRAMS OF HIGH-SCHOOL WORK

The 15 units¹ of high-school work required for admission to the University must include:

3 units of English.

7 units of subjects in Groups 1-6 (see below), to include *at least* 3 units in a single group and *at least* 2 units in another single group.

5 units of any secondary school subjects for which credit toward its diploma is given by an approved school.

To fulfil admission requirements most effectively and to leave the maximum freedom of election in college, the following programs are recommended in preparation for college work leading to the different Bachelor degrees:

A.B.	Units	P.H.B.	Units	S.B.	Units
English.....	3	English.....	3	English.....	3
Greek.....	3	One foreign language.....	3 (or 2)	Science.....	3 (or 2)
Latin.....	4	History.....	2 (or 3)	Mathematics.....	2 (or 3)
Mathematics.....	2	Mathematics.....	2	One foreign language.....	2
Electives from Groups		Science.....	2	History.....	2
3, 4, and 6.....	3	Electives from Groups 1-6.	3	Electives from Groups 1-6.	3
Total.....	15	Total.....	15	Total.....	15
Group 1.—Greek.					
Group 2.—Latin.					
Group 3.—Modern Language other than English (French, German, Spanish).					
Group 4.—History, Civics, Economics, Commercial Law.					
Group 5.—Mathematics.					
Group 6.—Science (Physics, Chemistry, Botany, Zoölogy, General Biology, Physiology, Physiography, Geology, Astronomy, Commercial Geography).					

Any combination of the subjects within each group is permitted but not less than $\frac{1}{2}$ unit of any subject may be offered. Not less than 1 unit of Algebra, Plane Geometry, Physics, Chemistry, or a language may be offered. To meet the 2 or the 3 units-in-a-single-group requirement in Groups 1, 2, or 3, the work offered must all be in *one* language.

Correspondence-Study Courses Which Offer High-School Work²

	Units
Political Economy—"Bookkeeping"	$\frac{1}{2}$
History—"Outline History of Antiquity" (A and B)	1
"Outline History of Europe" (A and B)	1
"Outline History of England" (A and B)	1
"Outline History of the United States" (A and B)	1
Latin—"Elementary Latin" (A and B)	1
"Caesar: <i>De Bello Gallico</i> " (A and B)	1
"Cicero: <i>Orationes</i> " (A and B)	1
"Vergil: <i>Aeneid</i> " (A and B)	1
French—"Elementary French" (A and B)	1
"Intermediate French" and "Advanced French"	1
Spanish—"Elementary Spanish" (A and B)	1
"Intermediate Spanish" and "Advanced Spanish"	1
German—"Elementary German" (A and B)	1
"Intermediate German" and "Elementary Prose Composition"	1
"German Idioms and Synonyms" and "Modern German Plays"	1
English—"Prep. English Composition—A" and "Prep. English Literature—A"	1
"Prep. English Composition—B" and "Prep. English Literature—B"	1
"Prep. English Composition—C" and "Prep. English Literature—C"	1
Mathematics—"Elementary Algebra" (A, B, and C)	$1\frac{1}{2}$
"Plane Geometry" (A and B)	1
"Solid Geometry"	$\frac{1}{2}$
Physics—"Elementary Physics" (A and B)	1
Physiography—"Physical Geography"	$\frac{1}{2}$
Drawing—"Freehand Drawing"	$\frac{1}{2}$
"Projective Geometry"	$\frac{1}{2}$

¹ A unit represents 120 sixty-minute recitation periods and may be made up by two Majors.

² These courses when completed and passed will be accepted in lieu of entrance requirements. Many of these courses, if not offered for admission, will command college credit, but see paragraph "Limited Credit," p. 12.

V. THE REQUIREMENTS FOR A BACHELOR'S DEGREE

A total of 66 Majors representing four years (15 units, approximately 30 Mjs.) of high-school work and four years (36 Mjs. with 72 "grade points") of college work are required for a Bachelor's degree. Any amount of the high-school work and as much as one-half (18) of the 36 Majors of college work may be done by correspondence.

REQUIRED COLLEGE WORK

1. *Specified*.—"English I" and "English III."
2. *Continuation*.—Three Majors of that subject in which 3 (or 2) units of admission work are offered or of that subject in which one unit of Senior high-school work is offered.
3. *Distribution*.—Enough Majors in each of the following groups to make the total (high-school+college) credit, 4 Majors (=2 units):
 - I. Philosophy, History, and the Social Sciences.
 - II. Language other than English (i.e., Greek, Latin, French, German, or Spanish). The four Majors must be in *one* language.
 - III. Mathematics.
 - IV. Science.

4. *Sequences*.—(a) One *principal* sequence of at least 9 coherent and progressive Majors taken in one department or in a group of departments. (b) One *secondary* sequence of at least 6 Majors selected from a different department or group of departments. These sequences must have the approval of the Dean. The work in the Divinity School, the Law School, the Courses in Medicine, or the College of Education may be counted in satisfaction of either sequence.

The degree of A.B. is conferred when the principal sequence consists of 11 Majors of Latin and 9 Majors of Greek (7 if all are of a college grade; cf. p. 28, of this *Circular*), including entrance work. A secondary sequence of 6 Majors is also required.

The degree of Ph.B. is conferred when the principal sequence has been taken in any one of the subjects from Philosophy to General Literature, inclusive.

The degree of S.B. is conferred when the principal sequence has been taken in any one of the subjects from Mathematics to Hygiene and Bacteriology, inclusive.

Mathematics may, at the option of the student, be used as the principal sequence for either the Ph.B. or S.B. degree.

No courses counted in satisfaction of entrance requirements, or of the provisions of paragraphs 1 and 3, shall count in making up the principal and secondary sequences, except in the case of the 9- and 11-Major groups in the requirements for the A.B. degree.

At least 12¹ of the 36 college Majors must be courses designated as of Senior College grade or as graduate courses to which undergraduates are admitted.

Not more than 18 Majors may be taken in college in one department.

Limited Credit.—Certain Junior College courses are subject to the following limitation of credit: (a) full credit is given only when these courses are taken among a student's first 18 Majors, and the total number so taken may not exceed 9; (b) after a student has credit for 18 Majors but less than 27, these courses will be credited at one-half Major each; after he has credit for 27 Majors, they will not be credited at all. Limited credit courses are starred (*) in this *Circular*.

¹ Ten instead of 12 in case of a student who has credit for 4 units of preparatory Latin and 3 Majors of college Latin; and two Majors in like manner will be allowed from the 12 for a student who is credited with 3 units of preparatory Greek and 3 Majors of college Greek.

VI. COURSES OF INSTRUCTION

Note.—The number in parenthesis immediately following the title of a course is that of the equivalent in residence. A star (*) after the number indicates "limited credit" (cf. page 12).

PHILOSOPHY

1. Logic (3).—A course devoted to a careful study of the essentials of logical thinking. It includes (1) an inquiry into the conditions under which thinking takes place, (2) an examination of the forms in which it goes on, and (3) an exposition of the laws to which successful thinking must conform. In addition to the topics usually taken up under the head of "Logic," such as concepts, judgments, induction, deduction, hypothesis, methods of scientific investigation, evidence, proof, fallacies, etc., considerable attention will be given to the psychology of thinking in order that the student may become more critical of his own thinking, better understand the opinions and behavior of others, more fittingly adapt his arguments and presentations to the requirements of particular situations, and more intelligently and effectively assist pupils and others to attain habits of rigorous and efficient thought. The student may expect, accordingly, to acquire not only a knowledge of logic and a certain training in critical habits of thought but also a good foundation for subsequent study in education and philosophy. While "Introductory Psychology" is a helpful preliminary, the course may be taken successfully by anyone who is prepared for thorough study of a college grade. **Mj. PROFESSOR ASHLEY.**

2. Ethics (4).—An introductory course intended (1) to familiarize the student with the main aspects of ethical history and theory, and through this (2) to reach a method of estimating and controlling conduct. The main divisions of the course are (a) the general nature of moral conduct; (b) a study of the evolution of the moral problem from primitive life to the present; (c) a comparative study of current ethical theories; (d) application of the foregoing to present problems of social and individual life. The course will be based on the text of Dewey and Tuft's *Ethics*, with collateral study of Mill's *Utilitarianism*, Kant's *Metaphysics of Ethics*, and Spencer's *Data of Ethics*. **Mj. PROFESSOR ASHLEY.**

3. Aesthetics (6).—This course deals with the following elementary aspects of beauty and of art forms: (1) psychological principles involved in the appreciation of beauty and its expression; (2) the character of primitive art; (3) the perception of form and the nature of rhythm; (4) description of the special arts—painting, sculpture, architecture, music, and the drama; (5) certain general relations of the aesthetic to other types of experience. Prerequisite: "Introductory Psychology" or an equivalent course. **Mj. ASSOCIATE PROFESSOR TALBERT.**

4. Introduction to Philosophy (7).—An elementary treatment of important problems of reflective thought. The Greek point of view regarding ethics, logic, art, mind, and education is reached through a study of Plato's *Republic*. Leading philosophic attitudes of modern thinkers are then considered. **Mj. ASSOCIATE PROFESSOR TALBERT.**

5. Greek and Mediaeval Philosophy (10).—This course is designed (1) as a survey of the history of thought, considered in its relations to the sciences, to literature, and to social and political conditions, and (2) as an introduction to philosophy through a more careful study of some of the most important systems. Special attention will be given to the study of the more important dialogues of Plato and to Aristotle's *Ethics*. **Mj. PROFESSOR TUFTS AND ASSISTANT.**

6. Modern Philosophy (11A).—Descartes to Hume, with special study given to Descartes' *Meditations*, Locke's *Essay*, Berkeley's *Principles of Human Knowledge*, and a portion of Hume's *Treatise on Human Nature*. **Mj. PROFESSOR TUFTS AND ASSISTANT.**

7. Introduction to Kant (11B).—Watson's *Selections* and Mahaffy and Bernard's editions of *The Critique of Pure Reason* and *Prolegomena* will be made the basis of the work. The course will be opened with a brief study of the thought of Leibnitz, for which Dewey's *Leibnitz* will be used. This will be followed by a brief outline of Kant's early development and a detailed study of the more important portions of *The Critique* as found in Watson's *Selections*. Prerequisite: course 6 or its equivalent. Mj. PROFESSOR TUFTS AND ASSISTANT

8. Movements of Thought in the Nineteenth Century (12).—The course continues in less technical manner the history of modern philosophy: romanticism as represented by Rousseau and certain poets; idealism in German philosophy and in Carlyle; utilitarianism; positivism; transcendentalism as seen in Emerson's view of nature and man; the doctrine of evolution, particularly in its relation to human society and the problems of morality as considered by Huxley; the relation of the scientific to the philosophic point of view as defined by Royce. Those who register for the course should have access to a good library or be prepared to purchase a number of books. Prerequisite: two of the three courses, 5-7. Mj. PROFESSOR TUFTS.

9. Contemporary Philosophy (13).—Selected works of Bergson, James, and other writers representing the several schools of thought are studied in detail, the purpose being to illustrate types of philosophic thought. Some of the problems considered are (1) the relation of philosophy to science; (2) the nature of freedom, space, and time; (3) the definition of truth; (4) the contrasting stand-points of absolutism and pragmatism. This course furnishes the student an opportunity to read the serious thinkers of the day who are now exerting influence and to formulate by comparison and criticism a point of view of his own. Mj. ASSOCIATE PROFESSOR TALBERT.

10. Evolution and Modern Thought.—To trace the important consequences of Darwin's theory and method is the object of this course. Starting with an outline of the elements of Darwin's hypothesis, attention is first directed to the history of the English development, followed by a consideration of the contributions of selected European and American writers. The conclusion of the study suggests the way in which the concept of evolution affects general philosophical attitudes as expressed by recent schools of philosophy. Mj. ASSOCIATE PROFESSOR TALBERT.

11. Evolution of Morality (20).—A study of the historical development of the moral life and of moral standards in relation to the social, economic, and political conditions, and also to custom, law, and religion. The course will be based largely upon Hobbouse's *Morals in Evolution*, with readings from Sumner's *Folkways* and Westermarck's *Origin and Development of the Moral Ideas*. Mj. PROFESSOR TUFTS AND ASSISTANT.

12. Psychology of Religion (35).—The writings of American workers in this field serve as the basis of reading and reports. Among the topics treated are: (1) religion as an individual phenomenon and as a collective phenomenon; (2) types of religious attitude; (3) the ritual; (4) development of the religious consciousness from childhood to maturity; (5) conversion; (6) prayer; (7) mysticism. Mj. ASSOCIATE PROFESSOR TALBERT.

Social Psychology.—(Cf. description under Psychology 4.) Mj. ASSOCIATE PROFESSOR TALBERT.

Hindu Philosophy.—(Cf. description under Comparative Philology 6.)—Mj. ASSOCIATE PROFESSOR CLARK.

PSYCHOLOGY

1. Introductory Psychology (1).—This course takes up the general study of mental processes. It aims to train the student to observe the processes of his own experience and those of others, and to appreciate critically whatever he may read along psychological lines. It is introductory to all work in philosophy and pedagogy and is an important part of equipment for historical and literary interpretation. Mj. ASSOCIATE PROFESSOR CARR.

2. Psychology of Thinking (introductory course).—The purpose of this course will be to investigate the character and function of thinking. Thinking will not be regarded in accordance with popular usage as a common term for all sorts of imagery but will be treated as a reflective process, which arises because of difficulties in our experience and has its object and justification in their solution. The psychology of thinking will include, therefore, (1) a preliminary study of conduct or behavior, with a view to determining the conditions which give rise to problems and reflective processes, and (2) a more detailed account of the way in which thinking proceeds in our attempt to solve these problems. In connection with the general investigation various applications to education, science, and practical affairs will be pointed out—partly for the purpose of illustration and partly for the value which the student who is interested in these fields will derive from the point of view which the course will tend to develop. No special preparation is required as a prerequisite, but any work which the student may have had in biology or psychology should be of considerable assistance. Mj. PROFESSOR ASHLEY.

3. Psychology of Advertising.—A systematic treatment of the psychological problems of advertising and selling under such topics as : (1) attracting attention; (2) inciting interest; (3) arousing desire; (4) securing action; and as means to these ends, among others; (a) effects of mechanical arrangements; (b) appeals to instinctive and reasoned action; (c) the psychology of color; (d) influence of illustrations, imagery, etc. The course aims to expose to view the mind of the prospective buyer with its manifold desires and aversions, and to direct the student toward a scientific method of approaching it. While the course is devoted strictly to advertising, it still furnishes to the business student, or the business or professional man, a fund of knowledge applicable to marketing in the wider sense. Practical exercises and minor investigations are assigned in order to make the student sensitive to psychological considerations and to illustrate the use of scientific methods in the field. Mj. PROFESSOR KITSON.

4. Social Psychology (4).—An elementary treatment, from the standpoint of interpersonal stimulation, of such topics as: (1) instinct; (2) sentiment; (3) language; (4) thinking, and (5) the self as expressed in leadership. Mj. ASSOCIATE PROFESSOR TALBERT.

5. Advanced Psychology (11).—This course undertakes a somewhat more detailed inquiry into the fundamental presuppositions and problems of psychological theory than is possible in course 1. Some consideration is given to the contributions made by recent movements, such as behaviorism, imageless thought theories, the psychoanalytic school, individual and differential psychology, etc. The course presupposes Psychology 1, or a familiarity with such a text as Angell's or Judd's or Breese's *Psychology*, Pillsbury's *Essentials or Fundamentals of Psychology* or Titchener's *Outlines of Psychology*. Mj. ASSISTANT PROFESSOR KINGSBURY.

Psychology of Religion.—(Cf. description under Philosophy 12.) Mj. ASSOCIATE PROFESSOR TALBERT.

Social Groups.—(Cf. description under Sociology 3.)

EDUCATION AND METHODS IN DIFFERENT SUBJECTS

(For courses see pp. 58 ff.)

POLITICAL ECONOMY

1. Industrial Society (0).—This course presents a general survey of industrial society, its structure, its institutions, its operations. As a basis for comparative study, the first part of the course examines briefly the structures of mediaeval industrial society and the evolution of modern capitalistic industry. The second part of the work deals with certain outstanding features of the present industrial society, such as private exchange co-operation; the pecuniary organization of

society and the financial institutions resulting therefrom; specialization and interdependence; the significance of technology, using machine industry as an illustrative case; speculative industry, risk and risk bearing; the position of the worker under a wage system in capitalistic machine industry; concentration in the sense of large-scale production; concentration of the ownership of wealth and income; concentration of control of industry; impersonal relations; the guidance of economic activity. The third part of the course is concerned with some underlying assumptions of our present regime, such as private property, competition, and the social control of industrial activity. The course is designed to serve as an introduction to the later work in economics, which is so arranged as to constitute progressively more intensive studies in the field here rapidly surveyed. In connection with course 2 it serves as a general introduction to the courses in business. Mj. PROFESSOR MARSHALL AND ASSISTANT.

2. Value and Distribution (1).—This course is designed to work out the principles of value, including those determining rent, wages, interest, and profits in our pecuniarily organized society. It is prerequisite to all later courses in economics and commerce and administration. The course deals with elementary concepts and presupposes no previous training in economic theory, although it may be said that the training which course 1 provides will prove useful. Mj. MR. ATKINS.

3. Business Administration (01).—This course gives a general survey of the problems of management from the desk of the business manager. It takes up such topics as: (1) the manager's relation to his environment, using the problem of plant location as a specific illustration; (2) the manager's relation to his workers—selection, placement, wages, rewards; (3) the manager's relation to the market—market analysis, advertising, sales methods, purchasing; (4) the manager's relation to finance organization—policies, occasionally used devices; (5) the manager's relation to risk; (6) organization—the line and staff, unit system, functional method, etc., principles and practices of management. Nothing more than a survey of the problems involved is attempted; more intensive work in limited fields being left to advanced courses. The course furnishes a background for the teaching of commercial subjects and contains illustrative material for the teacher of economics. For the business man it offers a survey of the highly interrelated problems of the business organism in which his particular activities are placed. It presupposes no specialized training in economics although the student will find that course 1 or training in business will be of some value. Mj. MR. ATKINS.

4. The Financial Organization of Society (3).—This course first undertakes a general study of the part that money, in its various rôles—as a pecuniary unit of calculation, a standard of deferred payments, and a medium of exchange—plays in the organization of industrial society. Since modern industry is largely conducted on the basis of borrowed funds, the entire credit mechanism is involved. The course therefore includes an analysis of: (1) the processes of and the problems associated with the raising of funds for fixed and working capital requirements, through the use of investment and commercial credit instruments in the form of stocks and bonds, bills of exchange and promissory notes, respectively; (2) the services rendered by the numerous types of financial institutions that have been developed in connection with the marketing of corporate securities and with the financing of business on short time credit—underwriting syndicates, distributing bond houses, savings banks, insurance companies, trust companies, commercial banks, brokerage concerns, the stock exchange, etc.; (3) the financing of agricultural business and the market mechanism that this has required; (4) private borrowing for non-business purposes and the organization of the private loaning business. The interrelations of financial institutions and their dependence on the commercial banking system is emphasized. In this connection a detailed study of the Federal Reserve System is undertaken. The study aims to reveal the economic functions performed by the various types of financial agencies that have been developed and to show whether these agencies on the whole promote an efficient and well-balanced national life. It seeks to disclose such weaknesses as

have developed from time to time, and to show how and to what extent these have been eliminated by private and government regulation. Finally, it endeavors to ascertain what defects in the financial organization of society still persist and, where possible, to point the way to their elimination. The many types of financial institutions and instrumentalities which function in modern industrial society are not conceived and discussed as isolated economic agencies; they are considered as parts of an intricate financial structure, closely interwoven with the entire economic organization by means of which the material wants of the world are supplied. In a word, the course is a study of the general economic organization from the point of view of finance. It is a prerequisite to all the other courses in the financial field. Mj. MR. MEECH.

5. Business Communication (95).—A survey of communication in present-day business and training in the presentation of material for business purposes. Since effective communication in business requires a close knowledge of human nature, often calls for pictures and diagrams as well as words, and frequently involves the use of type, this course makes a study of the psychological, graphic, rhetorical, and typographical aspects of business communications. No one medium or form is analyzed exhaustively, but the technique which is common to all forms of business communication is discussed and illustrations are sought among a wide variety of forms—reports, bulletins, letters, folders, booklets, cards, signs, newspaper and magazine advertisements, window displays, catalogues, house organs, charts, etc. Assignments are made which cover both internal and external business communication and test the student's ability to present material effectively. This practice work includes reports, letters, advertisements, editorials, and business articles. In the case of salesmen, correspondents, copy-writers, secretaries, house-organ editors, executives, commercial teachers, and others whose interest in this course is specialized, the readings and practice work assigned will be adapted as far as possible to the individual student. The course presupposes the ability to write English which is correct and reasonably effective. Some knowledge of business organization and psychology is desirable. Mj. ASSISTANT PROFESSOR BARNES.

6. Business Correspondence (96).—This course offers intensive training in the writing of business letters with some discussion of tendencies in present-day business correspondence and the problems of management connected with correspondence. The best practice of the day is studied through readings from many sources and specimen letters. Through a series of graded problems the student has an opportunity to apply his knowledge of human nature and to develop judgment on points of business policy. This practice work covers a wide variety of letters, with the emphasis placed on sales letters, adjustment letters, or collection letters according to the individual student's dominant interest. The course presupposes the ability to write English which is correct and reasonably effective. Mj. ASSISTANT PROFESSOR BARNES.

7. The High-School Curriculum in Commercial Subjects (130).—A course of studies devoted to a constructive analysis of the high-school commercial curriculum. The work involves a study of modern business, an examination of the demands of the business man, a survey of the purposes of secondary education, a review of the development of commercial training in its relation to the needs of changing business conditions and an examination of the various agencies that play a part in business education. Many typical business courses are examined and used, with the background developed, as the basis of constructive suggestions. Mj. ASSISTANT PROFESSOR LYON.

8. Secondary-School Course in Economics (131X).—A course for secondary-school teachers designed to provide a broad outlook upon business organization, civics, and allied social and business subjects. The subject-matter of the course is taken from a text which has been successfully used with high-school classes in teaching the development and present organization of modern industrial society. Not only teachers of economics, but teachers of civics, history, accounting, commercial law, business writing, and other business and social subjects should find

this course serviceable. The content of the course follows the content of "Industrial Society" somewhat closely and may not be taken for credit by students who desire credit for "Industrial Society." Mj. ASSISTANT PROFESSOR LYON.

Psychology of Advertising.—(Cf. description under Psychology 3.)

Economic History of the United States.—(Cf. description under History 20.)

ACCOUNTING

9. Bookkeeping.—This course gives a full treatment of the underlying principles of bookkeeping. Its purpose is to acquaint the student with the theory and nature of accounts. The subjects treated will be (1) forms of accounts (2) books used in accounting, (3) mode of handling commercial papers, (4) the recording of transactions, and (5) double-entry methods in retail business. In the first half of the course a retail proprietary business is conducted and properly closed. Following this a partnership is opened, introducing a new line of trade and distributing profits proportionately among partners. All principles presented are practically illustrated by a series of transactions that the student will be required to enter in a set of forms which accompany the textbook required in the course. Prerequisite: a working knowledge of arithmetic. [This course commands admission credit only.] Mj. MR. KEEN.

10. Accounting Principles (10).—This course presents the subject of accounting with two objectives: (1) the specific aid which accounting gives in the administration of business—this feature is deduced through the analysis of formal accounting reports and through the discovery of what materials necessarily enter into such reports; and (2) the study of accounting processes. This part involves a close examination of the mediums employed in the systematic keeping of business records, such as purchases, sales, cash records, returned goods and allowances, and the handling of negotiable papers. In closing, a more detailed analysis of accounting statements is required, involving the correct treatment of depreciation of fixed assets, and carrying forward of deferred and accrued items. Throughout, all principles involved are developed by laboratory questions and exercises, with a minimum of bookkeeping routine. [This course commands credit both in the Colleges of Arts, Literature and Science and in the School of Commerce and Administration.] Mj. MR. KEEN.

11. Wholesale Partnership Accounting.—This course follows course 7 and is designed for students who have completed that course or who are familiar with the principles of bookkeeping therein enunciated. The articles of co-partnership are introduced and explained; the net profits or losses are carried to the partners' accounts and the books formally closed. New accounts pertaining to a wholesale trade are taken up in addition to those previously studied. Special attention is given to the method of handling invoices and sales by the loose-leaf system. Also the sales ledger with its controlling account, the bills-receivable and the bills-payable books, are introduced. A system of keeping departmental costs is fully carried out, showing a comparison of the costs and sales in the several departments in the business. As in course 9, the student is required to do the practical work in recording transactions and handling the commercial papers pertaining thereto. [This course does not command credit in the School of Commerce and Administration.] Mj. MR. KEEN.

12. Corporation Accounting.—This course provides a tabulated study of the laws of all the states with reference to the formation and conduct of corporations. Then follow the opening of a set of corporate books under various conditions; the conversion of a partnership into a corporation; the treatment of good-will as a resource; the manner of issuing, transferring, and canceling stock; the keeping of all special account books used in corporate accounting; the making of balance sheets and the peculiar items composing them; the sources of income, the declaring of dividends, reserve fund, surplus, depreciation, and the closing of the books for a fiscal period. The student is required to record the operations of a manufacturing corporation for two financial periods, thus illustrating the foregoing principles, and also to conduct the payment of all obligations by the voucher system. Incidental to record sheets, and in connection with special references given, the discussion of problems related to corporate

accounting is called for. [This course does not command credit in the School of Commerce and Administration.] Prerequisite: course 9 or its equivalent. Mj. MR. KEEN.

13. Cost Accounting.—This course is designed to give a detailed analysis of that type of accountancy which deals particularly with the various expenses incident to preparing products for the market. All underlying principles are duly outlined, and their interrelation and application are illustrated. Both department method and cost method are analyzed, and their advantages are shown. A synthetic set of problems is used to introduce the working out of costs and to reflect the principles, theoretically discussed, as they are actually involved in the process of manufacturing. Following the introductory examples is given the actual work of a large factory during two months of its operation. All transactions, from organization to closing of accounts, are recorded in the most systematic and thorough manner. In conjunction with this laboratory work, papers on office and shop investigation are called for. Prerequisite: course 9 or its equivalent. [This course does not command credit in the School of Commerce and Administration.] Mj. MR. KEEN.

14. Bank Accounting.—This special form of accountancy is treated in conformity with thoroughly modern practice in banks. The text used has been compiled recently by an eminent certified public accountant, and embodies both practical experience and ample investigation. The development of the lessons is such as to enlist and hold the student's interest. The basis of banking is shown. Exercises in statements of credit are given. Illustrated exercises in opening the books of a bank are preliminary to three periods of specific bank transactions which must be posted. The books will then be closed and all statements made [This course does not command credit in the School of Commerce and Administration.] Prerequisite: course 9 or its equivalent. Mj. MR. KEEN.

POLITICAL SCIENCE

1. Civil Government (1A).*—This course is devoted to an analysis of the organization and activities of the American government, local, state, and national. Some of the topics treated are (1) the historical foundations of American institutions; (2) the evolution of federal and state constitutions; (3) the development of political parties and party machinery; (4) nominations and elections; (5) the organization, powers, and duties of the executive, legislative, and judicial departments of the federal, state, and local governments; (6) city government; (7) public administration and administrative reform; (8) a critical estimate of the abilities of men now in public office or in positions of political importance; (9) government regulation of business through such agencies as the Interstate Commerce Commission, the federal Trade Commission, and the state regulating bodies; (10) the welfare activities of the various governmental agencies. Emphasis is placed upon the actual work governments perform. Mj. DR. GOSNELL.

2. Comparative Government (1B).¹—An introductory study of the principal political forms and methods on a comparative basis. The political institutions of important European states are examined and compared with the government of the United States. Stress is laid upon the actual workings of the English and French governments. Among the topics treated are: (1) the preconceptions underlying written constitutions; (2) the federal system of government as a device for distributing the powers of government territorially; (3) the relative merits and defects of the parliamentary (cabinet) and the presidential (congressional) types of government; (4) the organization and functioning of modern legislative bodies; (5) the various methods employed by modern governments to administer justice and (6) the place of political parties and public opinion in the governing process of modern states. Prerequisite: course 1 or its equivalent. Mj. DR. GOSNELL.

3. Elements of Business Law.—This course deals with the following branches of private law: (1) contracts; (2) sales; (3) bills and notes; (4) agency; (5) partnership; (6) private corporations; (7) bailments; (8) guaranty and surety-

¹ Registrations accepted after December 1, 1922.

ship. These are the subjects most closely connected with the ordinary transactions of business. The general doctrines and underlying principles of these branches are discussed and analyzed and their application illustrated by actual cases. The purpose of this course is twofold: (1) to give to the man of business a knowledge of the general character and extent of his legal rights and duties; (2) to give to the general student an introduction to the study of the nature and doctrines of American private law so far as they are illustrated in the subjects treated. **Mj. ASSOCIATE PROFESSOR HALL.**

4. Elements of International Law.—A study of the rules observed by civilized nations in their relations with each other. The course includes a general consideration of the history and development of international law and a more detailed study of the subject in its three fundamental divisions of peace, war, and neutrality. Some of the topics treated are the nature, sources, and divisions of international law; the intervention of one nation in the affairs of another; the rights and duties of nations in connection with property; the extent and nature of a nation's jurisdiction over its territory, subjects, and public and private vessels; the rights and duties of diplomacy; modes of warfare; recognition of belligerency; effect of war on treaties; rules of war on land and sea; rights and duties of neutral states; blockade; contraband of war, etc. The course is not strictly technical in character, and should prove of value to those desiring a better understanding of current international affairs, as well as to lawyers and teachers of history and political science. The work will be based on a standard text, supplemented by a book of cases on international law. **Mj. ASSOCIATE PROFESSOR HALL.**

5. Constitutional Law in the United States.—A study of the principles of constitutional law as they have been developed in relation to the federal constitution and to some of the more important provisions of the state constitutions of the United States. The general topics discussed are (1) the nature of American constitutional law; (2) making and changing of the American constitution; (3) separation of powers; (4) function of judiciary in enforcing constitutions; (5) political rights; (6) personal and religious liberty; (7) protection to persons accused of crime; (8) due process of law and equal protection of the law in regard to procedure, the police power, power of taxation, and the right of eminent domain; (9) laws impairing the obligations of contracts; (10) powers of the federal government and their exercise; (11) regulation of commerce; (12) inter-governmental relations; and (13) jurisdiction of the federal courts. This course is based upon the study of actual cases, which, wherever practicable, have been so selected and arranged as to show not only the law as expounded by the courts today but also its historical development. This is supplemented with the text, which gives an exposition of the general rules derived inductively from a study of the cases. As far as possible technical terms are avoided, so that the course will be of equal value to the general student, the political scientist, and the lawyer. **Mj. ASSOCIATE PROFESSOR HALL.**

NOTE.—Related courses are offered in Political Economy, History, and Sociology.

HISTORY

HIGH SCHOOL

The outline courses 1-4 are designed to meet college-entrance requirements in ancient, European, English, and American history, respectively. For A and B together, of each course, one unit of admission credit is allowed. The suggestions for study are made very definite as helps to beginning students and as an outline for high-school teachers.

1. Outline History of Antiquity.

A. *Oriental and Greek History to 200 B.C.*—A general narrative and descriptive history of Greece to the Roman conquest, with an account of the oriental nations that especially influenced Greek civilization. **Mj.**

B. *Roman History to the Dissolution of the Empire.*—A general view of Roman history from the early Republic to the break-up of the later empire with special attention to the government and institutions of the Romans. **Mj.**

ASSISTANT PROFESSOR KNOX.

2. Outline History of Europe.

A. *The Decline of the Roman Empire to the Reformation (376-1500).*—This course includes a study of the essentials in mediaeval European history from the fall of the Western Roman Empire to the Reformation. Mj.

B. *The Reformation to the Present (1500-1914).*—The course aims to give the student a general understanding of the principal territorial changes, national policies, economic conditions, and intellectual interests of Europe during the last 400 years. Mj.

ASSISTANT PROFESSOR KNOX.

3. Outline History of England.

A. *English History to 1603.*—An introductory study of the origin and formation of the English nation to the death of Elizabeth. Besides tracing the outlines of political and constitutional development, the course deals briefly with social and institutional history and with the growth of civilization and culture. Mj.

B. *English History from 1604 to the Present.*—Politically and constitutionally the course treats of the rise of Parliament in the seventeenth century, the growth of cabinet government in the eighteenth century, and the growth of popular control over Parliament in the nineteenth century. The colonial expansion of England, the growth of the British Empire, and the main facts and results of the industrial revolution are studied. Mj.

DR. FOX.

4. Outline History of the United States.

A. *American History to the Formation of the Constitution (1492-1788).*—The course traces the history of the English colonies on the Atlantic coast from the planting to their union under a written constitution. Political and social institutions in the colonies and such economic conditions as affected their development are studied with some care. European rivalries and colonial wars are made subordinate to their results. Other main topics are the relations of the colonies to the mother-country and to each other; their defense of "the rights of Englishmen" in the face of British colonial policy after 1760; the Revolution and independence; the difficulties of forming a permanent political union; the Articles of Confederation and their failure; the Constitution. Mj.

B. *The Nation under the Constitution (1789-1914).*—Up to the Civil War the course treats of the organization of the new government; foreign and domestic problems; the services of the Federalists and their overthrow; Jeffersonian policies; the War of 1812 and results; political and economic reorganization; westward extension and the rise of national democracy under Jackson; the Monroe Doctrine and territorial expansion; the slavery controversy and the triumph of nationalism over sectionalism in 1865. Following the Civil War the chief topics are political and economic readjustments to 1877; industrial development; economic problems and legislative regulation; civil service and political reform; the growth of socialistic legislation, the Spanish War and "imperialism"; the Wilson policies. Mj.

DR. FOX.

COLLEGE

5. *History of Antiquity to the Fall of the Persian Empire (A6).*—In this course the ancient history of the Near East—Babylonia, Egypt, Assyria, Syria, Israel, etc.—is studied in its development from the Pre-historic Age to the fall of the world-empire of Persia. The contributions to human progress rather than mere dynastic history are emphasized, and some experience in the study of history, as well as a habit of systematic work, is essential. Mj. ASSISTANT PROFESSOR KNOX.

6. *History of Greece to the Death of Alexander (A12).*—This course presupposes a general knowledge of the external facts of Greek history (course 1A). It treats of the Pre-historic Period, the beginnings and development of Greek states, colonization, internal and external conflicts, Greek institutions and contributions to civilization, and the rise and expansion of Macedonia. Mj. ASSISTANT PROFESSOR KNOX.

7. History of Rome to the Antonines (A13).—A general view of the political, economic, and cultural development of Rome to the close of the first century A.D. Mj. ASSISTANT PROFESSOR KNOX.

8. European History: The Mediaeval Period (376-1300) (1).*—A view of conditions while the Germans and Arabs were breaking up the Roman Empire, the growth of new European states, the Christian church, the Holy Roman Empire, Feudalism, and in general a study that treats the important factors of mediaeval history for their own sake and as a basis for a proper understanding of the modern period. The needs of the teacher as well as those of the general student are met in this course. Mj. ASSISTANT PROFESSOR KNOX.

9. European History: The Later Mediaeval and Early Modern Period (1300-1715) (2).*—The course opens with a study of Europe during the period of the Renaissance and extends to the reconstruction of Europe at Utrecht. Besides the Renaissance, the chief topics studied are the Reformation and its results; the growth of national states; the "wars of religion" to 1648; the ascendancy of France; the English constitutional struggle of the seventeenth century, and the colonial expansion of Europe following the period of exploration and discovery. Mj. DR. FOX.

10. European History: The Later Modern Period (1715-1910) (3).—In the eighteenth century the principal topics studied are the rise of Prussia and Russia; the colonial supremacy of England; the ancient regime in Europe; the era of the French Revolution and Napoleon. Following this the course will treat the political reconstruction of Europe in 1815, political and constitutional reform, the unification of Italy and the formation of the German Empire, the Balkan problem, the industrial revolution, European imperialism, and the growth of democracy and socialism. The course includes a brief study of the causes, events, and outcome of the Great War. Mj. DR. FOX.

11. Europe during the Renaissance (1250-1500) (B6).—A survey study of the period of the Renaissance in Europe. In addition to a general understanding of important events, emphasis is laid upon exploration and discovery; the growth of nationality; the expansion of the Ottoman Empire; commercial and industrial conditions, and the prominent intellectual and religious movements. Prerequisite: course 8 or its equivalent. Mj. DR. FOX.

12. The French Revolution and the Era of Napoleon (C6).—The ground will be cleared for the history of the period by a careful study of the institutions of the Old Regime, in which the remoter causes of the Revolution will be discovered. A consideration of the more immediate causes and the attempts at reform will introduce the Estates General. The Revolution ran through three periods which answer to the National Assembly, the Legislative Assembly, and the Convention, to the extreme of a red democracy. Three more periods, corresponding to the Directory, the Consulate, and the Empire, see France return to a military absolutism under Napoleon. The greatest emphasis will be laid upon the institutional changes induced by the French Revolution, and attempt will be made to show the constructive work of the Revolution and of Napoleon. Its importance as one of the greatest generic events of the world's history will give the course a significance wider than France alone. It is desirable that the student be familiar with the outlines of modern European history. Prerequisite: course 9 or its equivalent. Mj. DR. FOX.

13. The Expansion of Europe in the Nineteenth Century (C10).—Considers not only the extension of political control of European nations and the movement of European population to all parts of the world, but also other aspects of the movement by which Europe has touched and modified every part of the globe: missions, trade, investment of capital, etc. European activities outside of Europe are emphasized. A brief review of the earlier stages of expansion is followed by more detailed study of (1) the development of British colonial policy; (2) India since 1763; (3) Australia; (4) Canada; (5) South Africa; (6) problems of imperial organization; (7) Russian expansion in Siberia and Central Asia; (8) the opening of China to Western influence; (9) the awak-

ening of Japan; (10) Europe in the Far East; (11) the Boxer Rebellion; (12) Russo-Japanese war; (13) Chinese Republic; (14) the new French Colonial Empire; (15) Italy and Germany as colonizing powers; (16) the passing of the Mohammedan powers—Turkey, Egypt, Persia, Morocco; (17) connection of these movements with European rivalries; (18) expansion as a factor in leading to the war. The advantage of a great deal of scattered reading makes access to a fair library desirable. Mj. ASSISTANT PROFESSOR SCOTT.

14. Europe in the Twentieth Century: the Historical Background of the Great War (C16).—This course includes (1) a brief study of the outstanding features of the political, social, and economic organization of each of the leading countries of Europe; (2) the conflict of interests due to rival nationalistic ambitions, particularly in the Near East and Central and Southeastern Europe; rivalry for trade and the exploitation of natural resources, especially in Morocco and Asia Minor; (3) the armed peace resulting from all these factors, the origin of the Triple Alliance, and the development of the Triple Entente; (4) the crises since 1904 in the Near East and Africa; (5) the immediate occasion of the war and the responsibility for precipitating it; (6) the widening of the area of conflict, the definition of the issue of autocracy against democracy; (7) the war and neutral rights, with special reference to the United States; (8) some necessary conditions of a permanent peace. Mj. ASSISTANT PROFESSOR SCOTT.

15. England to the Stuarts.—National origins, early political and social organization, feudalism, the rise of the national state, Parliament, the strong Tudor monarchy, and cultural development are some of the principal topics. Mj. DR. FOX.

16. England from James I to George V (1603-1915).—Political and constitutional development, commercial and industrial growth, the colonies, imperial problems and democratic and social reform. Mj. DR. FOX.

17. Colonial Period (1607-1783) (E4).—This course deals briefly with the period of discovery but more in detail with the origin and development of political, social, and economic institutions. The chief events of colonial history are considered with especial reference to the relations between the English colonies and the mother-country and the economic and political causes leading up to the Revolution. Other topics are: the struggle for the control of North America by the French and English and the peace of 1763; the territorial, political, and economic condition of the English colonies in 1763; the new policy of the English government; the development of colonial opposition; the constitutional and philosophical arguments on both sides; the beginning of hostilities; the Declaration of Independence; the progress of the war; Congress as a governing body; the Loyalists; French and Spanish intervention; Washington's triumph; the preliminaries and terms of peace of 1783. Mj. DR. FOX.

18. The Formation and Growth of the Nation (1783-1829) (E5).—The following topics are considered: conditions following the Revolution; government under the Articles of Confederation; adoption of early state constitutions; organization of western territory; interstate controversies; problems of diplomacy and foreign trade; violations of the treaty of peace; paper money; Shay's Rebellion; the Constitutional Convention; analysis of the Constitution; ratification; organization of the national government; development of parties and of the cabinet; establishment of the financial system; the political revolution under Jefferson; international relations; internal improvements; Louisiana Purchase; War of 1812; development of the West; rise of the cotton South; the new industrialism; the tariff; Missouri Compromise; the Monroe Doctrine and the rise of Jacksonian Democracy. Mj. DR. FOX.

19. Sectional Conflict and National Development (1829-1914) (E6).—The course treats the following topics: the democratic revolution and its causes; the material growth and social development of the sections; the sectional treatment of national questions before 1860; steps leading to armed conflict between North and South; reconstruction and readjustments; the growth of the West; the development of Northern industry; the new South; the extension of Federal

powers and activities; the growth of reform; domestic questions; commercial expansion and "imperialism"; and foreign relations. Stress is laid upon the period after 1876, extending to the eve of the Great War. Mj. Dr. Fox.

20. Economic History of the United States.—A general survey of the subject aiming to acquaint the student with the economic problems and forces as they developed and shaped the course of American history—a phase frequently neglected, but of fundamental importance for a proper understanding of the history of the American people. Among the main topics treated are (1) colonial agriculture, industry, and commerce; (2) economic aspects of the Revolution; (3) the opening up and settlement of the West; (4) the public lands; (5) internal improvements; (6) railways and waterways; (7) slavery; (8) immigration; (9) the merchant marine; (10) foreign commerce; (11) the development of agriculture, (12) the rise of manufactures; (13) the growth of trusts and trade unions. Prerequisite: course 1 in Political Economy and 4 (A and B) in History, or their equivalents. Mj. Dr. Fox.

For other courses for teachers of History see p. 65.

History of India.—(Cf. description under Comparative Philology 4.)

THE HISTORY OF ART

1. Introduction to the History of Painting (20).—The object of this course is twofold: to increase understanding and enjoyment of paintings as works of art and to furnish an outline of the development of painting as a foundation for more detailed study. The course includes (1) an exposition of general principles of aesthetic excellence in pictorial art and analysis of selected paintings of various periods and schools in accordance with these principles; (2) a survey of the development of painting to the present time. Attention will be concentrated upon representative masterpieces, the history of intervening periods being traced briefly. The analyses are planned to stimulate the student's response to the aesthetic content of paintings so that in the historical work he will not overlook this element. Instruction is based upon reproductions of paintings, with readings and supplementary material furnished in the lesson-sheets. Prerequisite: a year of college work or the equivalent. Mj. Miss DRISCOLL.

2. Flemish Painting (46).—A course on the development of Flemish painting from the mediaeval miniaturists to Rubens and Van Dyck. The method will be analytical as well as historical. Instruction is based on reproductions of paintings with supplementary readings. Prerequisite: a year of college work or the equivalent. Mj. Miss DRISCOLL.

NOTE.—Related courses are offered in Philosophy, History, Drawing, and Painting.

SOCIOLOGY AND ANTHROPOLOGY

COLLEGE

1. Introduction to Sociology (1).—A study of the phenomena of social life; the basis of society in nature; the social person; social institutions, and social psychology, order, and progress. The course is designed to give an introduction to theoretical and practical sociology and to systematize the reading, observation, and thinking of advanced students. Mj. ASSISTANT PROFESSOR MACLEAN.

2. Social Technology.—A course for social workers and others interested in the dependent, defective, and delinquent classes. The particular work in which the student is interested is taken as a starting-point and an attempt is made to discuss various forms of preventive and constructive social work from the standpoint of the relief visitor, city missionary, alienist, contributor, or lay student, as the case may be. The aim of the course is to give occasion for the reader to analyze, classify, and describe his own environment and his own experience and observation. Prerequisite: course 1 or its equivalent. Mj. ASSISTANT PROFESSOR MACLEAN.

3. Modern Cities (6).—A study of the modern urbanization of society with special reference to American cities. Importance of cities: current interest in city problems, characteristics of cities, and their relation to rural regions. Location of cities: causes and results of growth and constructive measures at improvement. City planning: provisions of a plan, location of districts, zoning, some typical plans, legal and financial aspects of planning. Street systems and transportation as related to human satisfaction and energy conservation. Civic aesthetics and architecture. Protection and conservation of health: police and fire protection, water supply, sewage, garbage, and waste disposal, the food supply and market system, communicable diseases and health nuisances. The course emphasizes the material, physical, and health problems of cities and methods of improvement and is designed to offer a foundation for persons interested in every type of city improvement, such as social-service workers, socialized physicians and lawyers, city managers, civic secretaries, community-center workers, and secretaries of commercial associations. Inspection of typical institutions. Prerequisite: course 1 or its equivalent. Mj. ASSOCIATE PROFESSOR BEDFORD.

4. Social Groups.—A course for students who desire to investigate special problems like (1) the process by which a group, as a sect, is maintained; (2) the process by which immigrant groups in America become adjusted; (3) the validity of the concept of "the group mind." Prerequisite: "Social Psychology" or an equivalent course. Mj. ASSOCIATE PROFESSOR TALBERT.

5. Modern Immigration.—This course includes a study of the forces at work in movements of population from the Old World to the New; history and statistical studies of immigration into the United States; nationalities involved; their distribution and industrial adjustment; problems presented; legislation; social efforts looking toward better assimilation; Americanization; the status of the immigrant. A course for students, social workers, and all who are interested in this important social problem. Prerequisite: course 1, or its equivalent. Mj. ASSISTANT PROFESSOR MACLEAN.

6. Rural Life.—The aim of this course is to study rural social life in America, with its problem of isolation, and organized efforts for improvement. The course is designed to meet the needs of Young Men's and Young Women's Christian Association secretaries, country ministers, teachers, social workers, and others who are dealing with the problems of rural communities. The country will be studied in its physical, economic, and psychological aspects with a view to a thorough understanding of rural life, a discovery of needs and existing efforts to meet these, and suggestions for further improvement. Mj. ASSISTANT PROFESSOR MACLEAN.

7. Problems of Industry.—A course designed for the discussion of some of the vital questions in American industrial life, including (1) the labor of women and children; (2) methods of settling disputes; (3) insurance against accident; (4) the improvement of physical conditions in factories; (5) efforts to render workers more efficient. The work will be conducted by means of textbooks, reports, and special studies. Prerequisite: course 1 or its equivalent. Mj. ASSISTANT PROFESSOR MACLEAN.

8. History of the Social Reform Movement.—In this course a study is made of the social reform movement in England and America during the last century as it manifested itself in legislation and education for the working classes, better means of providing relief for the needy, and the extension of opportunities for a better life to all. Significant movements and prominent personalities will be studied. Good library facilities are essentials. Prerequisite: course 1. Mj. ASSISTANT PROFESSOR MACLEAN.

9. General Anthropology (80).—An introductory course treating of the origin, antiquity, distribution, and early occupations of man and of the sources of language, religion, the arts, and social relations. The student must consult the instructor before registering. Mj. ASSOCIATE PROFESSOR STARR.

10. Japan (101).—A general view of Japan, past and present, is sought. Especial attention is given to industrial art and religion. The student must consult the instructor before registering. Mj. ASSOCIATE PROFESSOR STARR.

GRADUATE

11. Principles of Collective Behavior (14).—An introduction to the study of society and social problems. This course is designed to make the student familiar with the concepts which investigators of social life in various fields have found useful in analyzing and describing the fundamental processes of community life. The point of view represented by the course is that human nature as distinguished from original nature is the product of human association. The original work of the student is organized from the standpoint of the interests of the teacher, the minister, the social worker, or others with problems requiring sociological interpretation. Mj. ASSOCIATE PROFESSOR BURGESS.

12. Municipal Sociology (50).—A study of the city with special reference to social technology or improvement of city conditions. Housing: evolution of the tenement, causes of bad housing, effects on the family—sweating, overcrowding, lodging evils, etc.—housing conditions in different countries, solutions of housing problem, zoning, demolition, garden cities, philanthropic, municipal, and co-operative housing, encouragement of home ownership, function of the government in housing solution, the restoration or creation of the neighborhood organization of the community. The community center: recreation, education, worship. Programs for social adjustment: social service, kinds of training and salaries, social diagnosis, surveys, exhibits. Welfare work for labor, infants and children. Delinquents: parental schools, juvenile courts, psychopathic institutes, court systems. Dependents: public and private relief, service for the sick, homeless, fallen, immigrants, soldiers, etc. Inspection of typical institutions; surveys. Mj. Prerequisite: two years of college work including course 1 or its equivalent. ASSOCIATE PROFESSOR BEDFORD.

13. The Family (11).—The purpose of the course is to investigate the problems of the modern family from the standpoint of the personal development of its members and of the "mores" of the community. The following topics will be considered: (1) the natural family; (2) the institutional family; (3) the home; (4) disorganization and disintegration; (5) the family and the community; (6) the future of the family. As far as practicable the instruction will be based upon case-studies made by the individual student and upon an analysis of current ideals of family life as reflected in modern literature. Prerequisite: course 11. Mj. ASSOCIATE PROFESSOR BURGESS.

14. The Negro in America (43).—The course is intended as an introduction to methods of investigation in the field of racial psychology. It will seek to define the problems and outline a method and a point of view for investigating them. Attention will be directed especially to effects, in slavery and in freedom, of (1) the contacts of the white and the black races; (2) the ensuing processes of amalgamation, assimilation, and racial competition; (3) the rôle of the mulatto; (4) the social and political effects of isolation and prejudice; (5) the growth of race consciousness in the Negro; and (6) the evolution of a biracial system of social control. The books required for reference in this course can be borrowed by students to whom they are not otherwise accessible upon the payment of the cost of transportation. Prerequisite: course 11. Mj. PROFESSOR PARK.

15. The Social Survey (36).—An application of current methods of social investigation to local community problems. The student is expected (1) to make an inventory of the outstanding problems of his local community, i.e., neighborhood, town, or rural community; (2) to investigate the interrelations of the problems noted; (3) to assess the relative actuality of each problem or group of problems, i.e., estimate the urgency as well as the feasibility of an investigation of each case; (4) to prepare a plan of the community, (a) outlining the economic organization, (b) locating social institutions and the natural groups, i.e., the racial, occupational, recreational, religious, and residential groups. Prerequisite: course 11. Mj. PROFESSOR PARK.

16. Field Studies (43b).—This course is designed to provide direction and suggestion either (1) for special research or (2) for a community survey. Credit for the course depends upon the submission and acceptance of a satisfactory report upon an investigation made under the direction of the instructor. The approval of the instructor of the plan of the community survey is contingent upon the success of the student in organizing a local group to participate in the study of community problems. Arrangements may be made for expert assistance in the investigation of special problems if required. Prerequisite: course 11. Mj. PROFESSOR PARK AND ASSOCIATE PROFESSOR BURGESS.

HOUSEHOLD ADMINISTRATION

1. House Sanitation (42).—This course offers a comprehensive and practical study, based on scientific principles, of the sanitary aspects of the home. Recent changes in sanitary theory and practice are especially emphasized. Among the topics treated are the choice of building site, construction and care of cellar, drainage, plumbing, heating, lighting, ventilation, furnishing, and cleaning. Mj. PROFESSOR TALBOT.

2. Foods and Dietaries (43).—A course in practical dietetics covering the study of the composition of foods, methods of conservation, scientific principles of preparation, and their combination in dietaries from an economic and physiological standpoint. Prerequisite: high-school chemistry and physics. Mj. PROFESSOR TALBOT.

3. The Modern Household (40).—This course will consider the order and administration of the house with a view to the proper appointment of the income and the maintenance of suitable standards. Changes in household activities and organization as affected by modern economic and social conditions will be studied. Mj. PROFESSOR TALBOT.

COMPARATIVE RELIGION

(For courses see p. 72)

ORIENTAL LANGUAGES AND LITERATURES

(For courses see pp. 73 ff.)

NEW TESTAMENT AND EARLY CHRISTIAN LITERATURE

(For courses see pp. 75 ff.)

COMPARATIVE PHILOLOGY, GENERAL LINGUISTICS, AND INDO-IRANIAN PHILOLOGY

1. Elementary Sanskrit (10).—The aim of the course is to give the student a thorough grounding in the essentials of Sanskrit grammar, the principles of which are illustrated by constant translation from Sanskrit into English and from English into Sanskrit. It is designed as an introduction to the selections from classical Sanskrit in Lanman's *Reader*, which the student should then be prepared to read rapidly by himself. No attempt is made to teach comparative philology in this course. Mj. ASSOCIATE PROFESSOR CLARK.

2. The Bhagavad Gītā.—The Sanskrit text of this most famous of all Hindu religious books will be read and some attention will be paid to the content and the development of the doctrines contained in it. Mj. ASSOCIATE PROFESSOR CLARK.

3. History of Sanskrit Literature (13).—The aim of this course is to give a brief survey of the literature of India—a literature of no small intrinsic value and one which offers much that is of interest to the occidental student. An effort will

be made to gain some intelligent appreciation of the social and intellectual conditions under which this literature was produced and to form some conception of its place in the literature and thought of the world. No knowledge of Sanskrit or Pali is necessary, but a large amount of reading in translations will be required. **Mj. ASSOCIATE PROFESSOR CLARK.**

4. History of India (16).—This course will trace the political history of India and the parallel social development from the time of the Rig-Veda to the Battle of Plassey in 1757. The formation of the Mongol Empire in Central Asia will be traced in order to give a background for the treatment of the Mogul period in India. **Mj. ASSOCIATE PROFESSOR CLARK.**

5. The Religions of India (14).—The aim of this course is to give a brief outline of the mythology and religion of the Vedas and an account of the three great Hindu religions—Brahmanism, Buddhism, and Hinduism. A knowledge of these is absolutely essential to the student of comparative religion. **Mj. ASSOCIATE PROFESSOR CLARK.**

6. Hindu Philosophy (15).—The course will trace the growth of philosophic thought in India from the Rig-Veda through the Upanishads to the six great philosophical systems. Especial attention will be paid to the Vedanta, the Samkhya, and the Yoga systems. **Mj. ASSOCIATE PROFESSOR CLARK.**

THE GREEK LANGUAGE AND LITERATURE

Courses 1, 2, 3, and 4 are designed for students who begin Greek *after entering college*. They are coextensive with the corresponding residence courses, are conducted in the same manner, and are intended to prepare the student for the advanced required work. The first three Majors are equivalent to the first year's work in college.

1. Elementary Greek (1).—The purpose of this course is to give a mature person or one who has had four years of good high-school training sufficient drill in the most common forms and principles of syntax of the Greek language. After a very few lessons the *Anabasis* is begun, and throughout the entire course attention is paid to the writing of simple sentences in Greek. **Mj. MR. NELSON.**

2. Xenophon: *Anabasis* (2).—The *Anabasis* is continued from the point reached at the end of course 1, and six more chapters from Book i, with selections from Books ii and iii, are read. A systematic study of syntax is begun, with frequent exercises in prose composition. **Mj. MR. NELSON.**

3. Xenophon: *Anabasis* (continued) (3).—Books iv, v, vi, and selections from vii are read in this course, and the systematic study of syntax begun in course 2 is completed. The literary style of Xenophon and the historical content of the *Anabasis* are also subjects of study. **Mj. MR. NELSON.**

4. Homer: *Iliad* (4).—This is an introductory course to the study of Homer. The forms and syntax of the epic dialect are contrasted with those of the Attic dialect, and the essentials of prosody are presented. Selections from the *Iliad*, amounting to about 2,000 lines, are read. The course includes a literary study of this epic, with its pictures of life in the Homeric period. **Mj. MR. NELSON.**

5. Homer: *Odyssey* (Books i, v-xii, and selections from Books ii and iv) (5).—This course aims chiefly at enabling the student to translate Homer fluently and with appreciation. It also includes a review of epic dialect and syntax and a study of Homeric life and antiquities. **Mj. MR. NELSON.**

6. Plato: *Apology* and *Crito* (6).—In connection with these writings short selections from Plato's *Symposium* and *Phaedo* and from Xenophon's *Memorabilia* will be read to furnish a basis for the study of the life and philosophy of Socrates as interpreted by Plato and Xenophon. The course includes a brief outline of Plato's life and works and a discussion of the syntax and idioms of Plato. **Mj. MR. NELSON.**

7. Introduction to Greek Tragedy (7).—Sophocles' *Antigone* and Euripides' *Medea* are read. Attention is given to the various problems connected with these plays, to the character delineation, and the method of presentation. Colateral reading is assigned on the history of Greek tragedy and theater. Mj. NELSON.

8. Prose Composition (16).—The course offers to teachers and others an opportunity to improve themselves in Greek syntax, sentence structure, and the use of particles. The exercises are graded from simple narrative passages in the style of Xenophon to more difficult selections in the style of Plato and Demosthenes. Mj. PROFESSOR BONNER.

9. Lysias: *Selected Orations* and Demosthenes: *Philippics*.—A general introduction to Attic oratory. The literary characteristics of the authors studied and the public life and the history of their times are considered. Students should consult the instructor before registering. (Informal.) Mj. MR. NELSON.

10. Demosthenes: *De Corona*.—This oration, admitted to be the greatest one of ancient times, will be studied chiefly from the literary point of view. Students should consult the instructor before registering. (Informal.) Mj. MR. NELSON.

11. Herodotus: *Historiae* (Books vii-viii) (39).—The reading covers the invasion of Xerxes, including the battle of Salamis. The history of this period and the language and style of the author are studied. Mj. MR. NELSON.

12. Aristophanes (26).—An introduction to the study of Greek comedy; intensive study of two plays, probably the *Clouds* and *Birds*; the language and technique of Aristophanes; the external environment and inner spirit of Athenian comedy. Students should consult the instructor before registering. (Informal.) Mj. MR. NELSON.

Members of the Greek Department will endeavor to arrange informal courses for students who are prepared to do work of an advanced nature whenever practicable. Professor Shorey will occasionally guide by correspondence the work of advanced students who propose to attend the University.

NOTE—Related courses are offered in Philosophy and General Literature.

THE LATIN LANGUAGE AND LITERATURE

HIGH SCHOOL

1. Elementary Latin.—In two Majors is offered the equivalent of the first year of high-school work in Latin. Starting with the rudiments, the aim is to enable the student to read intelligently simple Latin prose and to appreciate the relationship between Latin and English.

A.—Includes all the declensions of nouns and adjectives, the conjugation of the indicative mode of all regular verbs, with exercises in translation, etymology, and syntax. Mj.

B.—Provides: (1) a review of the forms learned in "A"; (2) the completion of the conjugation of the verbs, regular and irregular, with special emphasis on the forms and uses of the subjunctive, the infinitive, and the participle; (3) a considerable amount of graded reading matter ranging in difficulty from the simplest Latin exercises to the prose of Caesar. Mj.

MRS. WOODWORTH.

2. Caesar: *De Bello Gallico*.

A. Book i, chapters 1-30 (Helvetian War), and Book ii.—This course is intended for students who have completed course 1, or a year of high school Latin, but who have had no other practice in translation. Special attention is given to a review of forms and syntax. Exercises in prose composition based upon the text form a part of each lesson. Mj.

B. Books iii-iv.—Continues the above. The more difficult Caesarian constructions are carefully studied, and further practice is given in prose composition. Mj.

C. Book i.—The latter part of Book i, the war with Ariovistus, is read. While forms, syntax, and prose composition continue to be studied, indirect discourse receives special attention. M.

MRS. WOODWORTH.

3. Cicero: *Orationes*.

A. *In Catilinam*, i-iv (1A).^{*}—This course includes translation, a review of forms and of more difficult constructions, exercises in Latin composition based upon the portion of text assigned in each lesson, and the history of the period. Mj.

B. *Pro Lege Manilia* and *Pro Archia* (1B).^{*}—Continues A and includes a careful study of the literary style of Cicero, of all historical references, and exercises in prose composition based upon the portion of text assigned in each lesson. Especial attention is given to translating into good English. Mj.

MISS PELLETT.

4. Vergil: *Aeneid*.

A. Books i-ii (2A).^{*}—The work includes a study of prosody, word derivation, constructions peculiar to the poets, and the more common rhetorical figures. Mj.

B. Books iii-vi (2B).^{*}—Continues A and lays emphasis upon elegance of translation, the mythology, and the literary style of Vergil. Mj.

MISS PELLETT.

5. Prose Composition Based on Caesar.¹—This course affords (1) practice in writing Latin in connected passages based on Caesar's *De Bello Gallico*; (2) a thorough review of grammatical forms and constructions found in the *De Bello Gallico*; (3) a careful study of synonyms. As the course is informal, special attention can be given to any subject in which the student is deficient. M.

MRS. WOODWORTH.

6. Prose Composition Based on Cicero.¹—Like course 5, using the orations as a basis. M. MRS. WOODWORTH.

NOTE.—The courses 1-6 are intended for three classes of students: (1) those who are preparing to enter college; (2) those who wish to study Latin for their own benefit; (3) teachers of Latin who from the topics and questions in each lesson can receive suggestions for their own work, e.g., the points to be emphasized at different stages in Caesar, Cicero, and Vergil.

COLLEGE

7. Cicero: *De Senectute* (4, first half).—The entire essay is read with studies in syntax and exercises in prose composition based upon the text of each lesson. M. MISS PELLETT.

8. Terence: *Phormio* (4, second half). This play, as a specimen of the highest development of Roman comedy, is carefully studied with regard to composition, presentation, etc. Attention is also given to vocabulary, metrical treatment, and ante-classical forms and constructions. M. ASSISTANT PROFESSOR BEESON.

9. Livy: *Parts of Books xxi and xxii*; Catullus: *Selections* (5).²—Reading of selections from the history of Hannibal's campaigns in Italy up to the battle of Cannae, accompanied by studies of Livy's style and syntax, and exercises in composition based on the text. The work in Catullus will consist mostly of translation, with some work in scansion, and a brief study of the life and times of the poet. Mj. ASSISTANT PROFESSOR BEESON.

10. Livy.—The twenty-first book and a large part of the twenty-second, describing Hannibal's expedition against Rome up to Cannae are read, with accompanying studies in literary style and syntax and exercises in prose composition, based in each case upon the portion of text assigned in each lesson. Mj. ASSISTANT PROFESSOR BEESON.

¹ This course commands no credit.

² Registrations accepted after January 1, 1922.

11. Horace: *Odes*, Books i-iii (6).—This course includes commentary upon the details of each ode, syntactical, historical, illustrative, etc.; translations, analysis of thought, and general interpretation, and a study of the metrical form. A list of general topics, material for the study of which is to be found in the odes, is presented at the outset, and the student is expected to select one of these for his especial study. Mj. PROFESSOR MILLER.

12. Advanced Prose Composition (44).—The course offers to teachers and others an opportunity to perfect themselves in Latin syntax and in sentence and paragraph structure. The exercises are graded from simple passages in the style of Caesar to more difficult extracts in the style of Cicero. Prerequisite: three Majors of college Latin. Mj. ASSISTANT PROFESSOR BEESON.

13. Cicero: *De Amicitia*.—Primarily a translation course, with questions based on subjects suggested by the text. The lessons will afford drill in syntax and some practice in the writing of Latin. M. ASSISTANT PROFESSOR BEESON.

14. Plautus (20).

A. *Captivi*.—This course will deal especially with the linguistic side of Plautus. The vocabulary and scansion will be studied and ante-classical forms and constructions noted. Good idiomatic translation will be required. M.

B. *Trinummus*.—Here the literary side will be emphasized. The course will deal especially with Plautus' style, plot, and delineation of character. As in the first minor, much attention will be paid to translation. M.

ASSISTANT PROFESSOR BEESON.

15. Tacitus: *Agricola* and *Germanica* (11).—In the reading of these works both their historical importance and their literary merits are brought out. The course is an introduction to the language and style of Tacitus. Mj. PROFESSOR BEESON.

16. Cicero: *Epistulae* (24).—A study of the character and career of Cicero from the evidence afforded by the material contained in one hundred selected letters and from supplementary historical and biographical sources. The course also deals with the peculiarities of epistolary Latin and with the general subject of letter-writing in ancient Rome. Mj. ASSISTANT PROFESSOR BEESON.

17. Ovid (10).—Selections from *Epistulae*, *Amores*, *Fasti*, *Metamorphoses*, and *Tristia*. The object of the course is to make a general study of the life and works of Ovid and of his place in Roman literature. (Informal.) Mj. PROFESSOR MILLER.

18. Pliny the Younger: *Letters* (36).—Reading of selected letters, with some observation of the peculiarities of Silver Age Latin. The course will afford a study of Roman life in early imperial times. Mj. ASSISTANT PROFESSOR BEESON.

19. Horace: *Satires* and *Epistles* (30).—Selected satires and epistles are carefully read and analyzed, with particular regard to argument, character portrayal, style, and their place in literature. (Informal.) Mj. PROFESSOR MILLER.

20. Seneca: *Tragedies* (33).—The tragedies of Seneca will be studied for their style, as characteristic of the period, and their content; they will be compared with the corresponding Greek dramas, and their influence upon English drama will be touched upon. Three plays will be read from the Latin text and the remainder from an English translation. (Informal.) Mj. PROFESSOR MILLER.

21. Horace and Persius: *Satires*.—A brief review of the predecessors of Horace in the field of satire, a reading of selected satires of Horace and Persius with a study of the characteristic features of each. (Informal.) Mj. PROFESSOR MILLER.

22. Juvenal (38).—The object will be to present, through the study of selected satires, a picture of life and manners at Rome under the Early Empire. (Informal.) Mj. PROFESSOR BEESON.

23. Roman Conception of the Immortality of the Soul (25).—This course is the study of a topic and is based for material upon a variety of authors: Cicero's

Tusculan Disputations i, *De Senectute*, *De Amicitia*, *Epistulae*: Vergil's *Aeneid*, Book vi; Horace's selected odes; Ovid, Seneca, Persius, etc. (Informal.) Mj. PROFESSOR MILLER.

24. Training Course for Teachers of Latin.—The object of the course is to give the teacher working alone and often at a distance from authorities an opportunity to appeal for assistance and advice along any lines connected with his teaching of Latin. Naturally there are some subjects which nearly all teachers find it profitable to take up in a somewhat formal way, e.g., pronunciation, translation, metrical reading, composition, etc. In addition to these, each teacher will have his own problems to discuss. The course is designed to meet these general and individual needs. (Informal.) Mj. PROFESSOR MILLER.

25. Teachers' Training Course in Vergil (46).—This course will cover the first six books of the *Aeneid* from the point of view of the actual needs of the high-school teacher of Vergil; first in respect to the acquisition of the material and second in respect to the presentation of the material to the class. Mj. PROFESSOR MILLER.

Members of the Latin Department will endeavor to arrange informal courses for students who are able to do work of an advanced nature, whenever practicable.

ROMANCE LANGUAGES AND LITERATURES

1. Elementary French.—In two Majors is offered the equivalent of the first year of high-school work in French. The writing of French is required from the beginning.

A(1).*—The aim is to acquaint the student with the essentials of French grammar, to enable him to turn short English sentences into idiomatic French and vice versa, and to acquire some ability in translation. Mj.

B(2).*—This course (1) reviews and extends considerably the knowledge of grammatical principles and the irregular verbs acquired in the preceding Major; (2) fixes it by means of exercises in composition; and (3) through drill in translation develops in the student ability to read easy French at sight. Mj.

ASSOCIATE PROFESSOR NEFF.

2. Intermediate French (3).*—The primary object is to develop reading ability. A rapid review of the essentials of French grammar, with drill in irregular verbs and idioms, accompanies the reading of about 350 pages of representative material in the fields of the short-story and the drama. Attention is given to the acquisition of a reading vocabulary and to free expression in French. Mj. ASSISTANT PROFESSOR BOND.

NOTE.—College credit, "limited" (cf. p. 12), is allowed for the above three Majors only after the following course, "Advanced French," has been finished.

3. Advanced French (4).—The reading of 300 pages from the following prose works: France, *Le Livre de mon ami*; Loti, *Pêcheur d'Islande*; Schoell, *Paris d'aujourd'hui*. Special attention is given to idioms, syntax and diction. Exercises in composition based upon the reading; short themes and résumés in French. Prerequisite: course 2. Mj. ASSISTANT PROFESSOR BOND.

4. French Reading and Composition (5).—A reading course in the novel, with themes based on the readings. Attention to some of the literary questions arising in the study of the following novels: France, *Le Crime de Sylvestre Bonnard*; Balzac, *Eugénie Grandet*; Sand, *La Mare au Diable*. Special study of idioms and the uses of moods and tenses. Prerequisite: course 3. Mj. ASSISTANT PROFESSOR BOND.

5. Advanced French Reading and Composition (6).—A reading course in the drama, with summaries based on the readings. The following dramas are studied, with consideration of the grammatical and literary aspects. Hugo, *Hernani*; Augier, *Le Gendre de M. Poirier*; Dumas, fils, *La Question d'Argent*; Rostand, *Cyrano de Bergerac*. Prerequisite: course 4. Mj. ASSISTANT PROFESSOR BOND.

6. Course de Style (12).—Exercices pratiques de composition française ayant en vue le développement d'un vocabulaire dont on peut se servir avec facilité et le pouvoir de s'exprimer *directement* en français. La composition est basée sur les contes de la collection Buffum: *Contes français*, dont on fait une étude très appliquée. Prerequisite: 6 Majors of French with an average grade of 80 or better, or the equivalent. Mj. ASSISTANT PROFESSOR BOND.

7. Introduction to the Study of French Literature (19, 20).—A general survey of French literary activity from 1600 to 1850. Prerequisite: 6 Majors of French or the equivalent. Mj. ASSOCIATE PROFESSOR DAVID.

8. Molière and the French Comedy in the Seventeenth and Eighteenth Centuries.

A.—*Molière and His Contemporaries* (14).—(Seventeenth century.) Mj.

B.—*Molière's Successors* (14A).—(Eighteenth century.) Mj.

These two majors include a study of the lives of the principal authors, their influence on the theater, with intensive study of the following plays: (a) Corneille, *Le Menteur*; Molière, *Les Précieuses Ridicules*, *Tartuffe*, *Le Misanthrope*, *L'Avare*, *La Critique de l'Ecole des Femmes*, *Le Bourgeois Gentilhomme*, *Les Fourberies de Scapin*, *Don Juan*, *Les Femmes Savantes*, *Le Malade Imaginaire*; (b) Regnard, *Le Légataire Universel*, *Le Joueur*, *Les Folies Amoureuses*; Lesage, *Turcaret*; Marivaux, *Le Jeu de l'Amour et du Hasard*, *Le Legs*, *L'Épreuve*, *Les Fausses Confidences*; Destouches, *Le Philosophe Marie*; Gresset, *Le Méchant*; Beaumarchais, *Le Barbier de Séville*, *Le Mariage de Figaro*. This is intended to familiarize the student with the masterpieces of classical comedy. Constant comparison will be made between the language of these writers and that of today, and the most unusual constructions will receive consideration. The work is conducted wholly in French. Prerequisite: course 7 or its equivalent.

ASSOCIATE PROFESSOR DAVID.

9. Molière.—A critical study of all the plays of the great writer. All the reports must be written in French. This secures to the student a thorough course in advanced French composition as well as a comprehensive knowledge of Molière's work. Prerequisite: 9 Majors of French. Mj. ASSOCIATE PROFESSOR DAVID.

10. Problems of Teaching French (21).—The object of this course is to discuss the various problems that confront the teacher of French in secondary schools: (1) pronunciation; (2) choice and presentation of grammatical material; (3) oral practice; (4) the teaching of composition; (5) the choice and treatment of reading texts; (6) the selection of the lesson book; (7) the question of method. Students will be expected to prepare reviews of reading and grammar texts, to report on their observation of school or elementary college classes, and, if engaged in teaching French, to make careful reports of what is done in their classes. They will also be expected to acquaint themselves with several of the more important treatises on the subject, and with the current views of educational psychology that bear on the teaching of languages. Mj. PROFESSOR COLEMAN.

11. Old French (elementary course) (76).¹—The importance of some historical knowledge of French as a part of the teacher's equipment is generally recognized. Old French is also an indispensable language for research in the mediaeval literatures. This course has been taken to advantage by students looking forward to resident graduate work. A reading knowledge of modern French is necessary, and some knowledge of German and Latin is desirable. Texts: *La Chanson de Roland*; *Aucassin et Nicolette*; *Erec et Enide*; *La Représentation d'Adam*. For reference: Nyrop, *Grammaire historique de la langue française*, Vols. I-IV. The student should consult the instructor before registering. Mj. PROFESSOR JENKINS.

12. Elementary Italian (B1).—This course is devoted chiefly to the study of Italian grammar. It includes practice in composition and in translation. The lessons are based on Grandgent's *Italian Grammar* (new edition, with Wilkins'

¹ May be available later in the year.

Lessons and Exercises), Wilkins' *Notes on Italian Grammar*, and Farina's *Fra le corde d'un contrabasso*. Mj. MISS SCHOBINGER.

13. Intermediate Italian (B2).—This course continues the work of B1, and is devoted chiefly to practice in reading and to review of the grammar. The lessons are based on the exercises in Grandgent's *Italian Grammar* (new edition, with Wilkins' *Lessons and Exercises*), on Wilkins and Marinoni's *L'Italia*, and Wilkins and Altrocchi's *Italian Short Stories*. Mj. ASSOCIATE PROFESSOR ALTROCCHI.

14. Elementary Spanish.—In two Majors is offered the equivalent of the first year of high-school work in Spanish. The writing of Spanish is required from the beginning.

A (C1).—This course includes a study of nouns, adjectives, pronouns, and the regular verbs and calls for the reading of about 125 pages of easy Spanish prose. Mj.

B (C2).—Continues A. Special attention is given to the irregular verbs and the subjunctive. The reading of about 160 pages of Spanish and exercises in composition are required. Mj. MRS. NORTHUP.

15. Intermediate Spanish (C3).*—This course calls for: (1) translation from English into Spanish of connected prose based for the main part on Spanish models, special attention being paid to points of syntax and idiomatic expression; (2) reading and translating a Spanish novel of some 250 pages in length. Mj. MR. CASTILLO.

NOTE.—College credit, "limited" (cf. p. 12), is allowed for the above three Majors in Spanish only after the following course, "Advanced Spanish," has been finished.

16. Advanced Spanish (C4).—Composition of a more independent nature is required, attention is given to diction and style as well as to syntax. The reading consists of about 300 pages of difficult prose, part of which is designed for intensive reading, and the remainder, reading for content only. Mj. MR. CASTILLO.

17. Commercial Spanish (C4).—Reading of about 300 pages of commercial and journalistic matter, with exercises in translating from English into Spanish. Study of business letter-writing with special attention to Spanish-American style of correspondence, advertising, banking, and book-keeping forms. Prerequisite: at least two years of thorough high-school training in Spanish. A person who has credit for "Advanced Spanish" (C4) may not obtain additional credit for this course. Mj. MRS. TRAVIS.

18. Modern Spanish Novels (C15).—This course is intended to fit students for the appreciative reading of the best modern Spanish literature. It includes the careful reading of about 450 pages of fairly difficult modern Spanish prose and verse, including *La Familia de Alvarado* by Fernán Caballero, *José* by Palacio Valdés, and *el Sombrero de Tres Picos* by Alarcón, special attention being directed to (1) the more difficult points of syntax; (2) translation into Spanish of selections based on the reading; and (3) abstracts of the reading assignments to be written in Spanish. If the student has read these books it may be possible to substitute others. Prerequisite: course 16 or its equivalent. Mj. MRS. NORTHUP.

19. Don Quixote (C52).—This is mainly an interpretative and critical reading course, divided between the first part and the second part of *Don Quixote*. The life of Cervantes and the literary movement of his time will be noticed. In the reading the peculiarities of syntax, style, and diction, as compared with later Spanish, will be studied. A bibliography of the more important works will be given, enabling the student who may wish to make a more extensive study of the author to do so. Prerequisite: course 18 or its equivalent. Mj. MRS. NORTHUP.

GERMANIC LANGUAGES AND LITERATURES

1. Elementary German.—In two Majors is offered the equivalent of the first year of high-school work in German. The writing of German is required from the beginning.

A (1).*—This course aims to ground the student in the essentials of German grammar through the reading of easy idiomatic German and exercises in which special attention is given to the construction of the verb, noun, and adjective. Mj.

B (2).*—Continues and extends A to include the passive voice and the subjunctive, and calls for extensive reading of easy prose. Mj.

ASSISTANT PROFESSOR NOÉ.

2. Intermediate German (3).*—Devoted primarily to the reading of easy modern prose and incidentally to a rapid review of elementary German grammar. Attention will be directed constantly to German idiom, and from time to time the student will be required to reproduce in German what he has read. In these free reproductions emphasis will be laid upon word-order and sentence-structure. Mj. ASSISTANT PROFESSOR NOÉ.

3. Elementary Prose Composition (4).—Through the reproduction of ordinary narrative English into German and by means of original composition the student is led to appreciate the difference between English and German idiom. The course also provides a comprehensive review of the grammar and syntax of the language. Mj. ASSISTANT PROFESSOR NOÉ.

4. German Idioms and Synonyms (5).—The course comprises the study of (1) the method of word-formation; (2) grammatical idioms; (3) synonyms together with a thorough review of syntax. Attention is given to German-English cognates. Composition based upon selected modern German prose affords the basis of instruction. Mj. ASSISTANT PROFESSOR NOÉ.

5. Modern German Plays (6).—This is primarily a reading course. It aims at the acquisition of a working vocabulary for conversation in German on the basis of the language of the dramas read. Mj. ASSISTANT PROFESSOR NOÉ.

NOTE.—The following three majors have been organized to accommodate students whose primary interest is the acquisition of a technical vocabulary and the ability to read scientific German. Such persons may substitute course 6 for course 2, course 7 for course 3, and course 8 for course 4. A person who has credit for course 2 or 3 or 4 cannot obtain additional credit for the alternative courses 6, 7, and 8.

6. Elementary Scientific German (Sc. 3).—This course has the same prerequisites as course 2. The reading selections are taken from German authors on biological, chemical, and physical topics. Mj. ASSISTANT PROFESSOR NOÉ.

7. Intermediate Scientific German (Sc. 4).—This course has the same prerequisites as course 3 but is devoted to the reading of scientific prose of a more advanced character and of greater linguistic difficulty than are the selections studied in course 6. Mj. ASSISTANT PROFESSOR NOÉ.

8. Advanced Scientific German (Sc. 5).—This course has the same prerequisites as course 4. It requires the reading of a certain amount of scientific German research literature which the student may select along the lines of his own scientific specialty. Mj. ASSISTANT PROFESSOR NOÉ.

9. Deutsche Aufsätze (11).—An advanced course in composition including a study of German synonyms, the more difficult principles of syntax, and the elements of style. Mj. ASSISTANT PROFESSOR NOÉ.

10. Introduction to the Study of German Literature (40A, B, and C).—The first required course in German literature. Through a critical study of representative masterpieces and supplementary readings the student is introduced to the whole range of the literature and furnished some knowledge of the notable movements in it. The course is divided into two parts, either of which may be taken without the other. Prerequisite for either Major: course 9 or its equivalent.

A.—This covers the field of German literature from the earliest times through Lessing. The selections from Old High German and Middle High German literature will be read in modern German translations. Mj.

B.—This is a continuation of A and follows the same general plan. The works to be studied are chosen from Goethe, Schiller, Kleist, Heine, Eichendorff, Grillparzer, Hauptmann, and Sudermann. Mj.

ASSISTANT PROFESSOR NOÉ.

11. *Aufsätze und Stilübungen* (61).—A sequent to "Deutsche Aufsätze." It includes a study of masterpieces of the best German stylists and the criticism of graded themes. The theme subjects deal with German life, history, and literature. The aim of the course is to develop the student's ability in essay-writing. Prerequisite: course 9 or its equivalent. Mj. ASSISTANT PROFESSOR NOÉ.

12. *Deutscher Satzbau und Stil* (101).—The course aims to develop an instinct for idiom and an active sense of the niceties of style by discussing, varying, and independently reproducing passages from great stylists of the nineteenth century. Prerequisite: course 11 or its equivalent. Mj. ASSISTANT PROFESSOR NOÉ.

13. *Gothic* (103).—A consideration of Gothic phonology, morphology, and syntax in connection with the reading of selections from the Bible translation of Wulfila. Intended as a review course or for those who have had philological training. Mj. PROFESSOR WOOD.

14. *Old High German* (104).—The reading of selections from Braune's *Althochdeutsches Lesebuch* with reference to the same author's *Abriss der althochdeutschen Grammatik*. This course is a natural sequent of course 13. Prerequisite: course 13 or its equivalent. Mj. PROFESSOR WOOD.

15. *Old Saxon* (109).—The work will be based on Holthausen's *Altsächsisches Elementarbuch*. Open to those who have had courses 13 and 14 or their equivalents. Mj. PROFESSOR WOOD.

16. *Old Norse-Icelandic Prose* (147A).—The purpose of the course is to offer students who have had a beginning course in Icelandic an opportunity to learn to read Icelandic prose readily. An annotated saga text providing about 300 pages of reading matter is selected, and the student is asked to read, in addition, on the antiquarian and literary problems involved. During 1922-23 the *Egils saga Skallagrímssonar* will be read. Zoëga's *Old Icelandic Dictionary* is recommended. Prerequisite: residence course 112 or its equivalent, a beginner's course involving a historical study of the sounds and inflections of the language, and the reading of about 40 pages of Old Icelandic prose. This prerequisite course must itself be preceded by "Gothic." Mj. ASSISTANT PROFESSOR GOULD.

THE ENGLISH LANGUAGE AND LITERATURE

ELEMENTARY

1. *English Grammar*.—An elementary course in practical English grammar, assuming no technical knowledge of the subject, and intended for students who need instruction or review in the fundamental principles of the language, especially with relation to the correct combination of words in sentences. In some cases this course will be desirable as preparation for the following composition courses. [This course commands no credit; the charge for *tuition* in it is \$19.00 regardless of combination. For "English Grammar for Teachers" see course 35, below.] ASSOCIATE PROFESSOR MARSH.

2. *Vocational English*.—A course designed to teach what it is most important for a clerk, a stenographer, or a worker in any occupation requiring correct speech and simple writing, to know about practical English. Study of spelling, capitalization, punctuation, and the grammar of the sentence is applied in letter-writing and other simple composition. [This course commands no credit; the charge for it is \$19.00 regardless of combination.] ASSOCIATE PROFESSOR MARSH.

HIGH SCHOOL

3. Preparatory English Composition.—In a series of three Majors the equivalent of the ordinary high-school work in English composition is offered. These three Majors in composition, together with the three in literature numbered 4, below, provide for the three units in English required for entrance to college: the A's for the first unit, the B's for the second unit, the C's for the third unit.

A.—A very simple introduction to English composition, with review of those portions of grammar necessary as a basis for correct sentence-structure and correct formation of words. The student will write simple themes and letters, based largely on his own experience and observation, and will prepare drill exercises of the sort assigned in the first year or so of a good high-school course. Mj.

B.—Somewhat more advanced work in composition with attention to the main principles of rhetoric. Sound paragraphing is considerably emphasized. Mj.

C.—Still more advanced work in composition very definitely preparatory for college English. Mj.

ASSOCIATE PROFESSOR MARSH.

4. Preparatory English Literature.—In a series of three Majors the equivalent of the ordinary high-school study of English masterpieces is offered. The work is designed for students who wish credit for entrance to college, but teachers of English in high schools may gain from it valuable hints for their own teaching of the masterpieces. These Majors are also suited to persons who wish to take up, either for the first time or by way of review, the more simple and concrete phases of the study of literature. Students seeking entrance credits will be somewhat limited in their choice of books for study; those who take the work for help in their teaching may range freely in the lists for college entrance. (For credit see the explanation under course 3, above.)

A.—The simplest masterpieces in both prose and poetry, among those listed "for reading" in the college entrance requirements, are studied. Mj.

B.—A somewhat more difficult group of masterpieces chosen from the list "for reading" are studied. Mj.

C.—The attention is concentrated on the masterpieces listed "for study," with additional choice of a few among the most difficult of those listed "for reading." Mj.

ASSOCIATE PROFESSOR MARSH.

COLLEGE

5. English I (1).*—This is designed to be a full equivalent of the first course in English composition and rhetoric required of all students in residence, and commands corresponding credit. It presupposes the ordinary training in English received in a good high school and represented in a general way by the preceding courses. More detailed study of the principles of rhetoric, as presented in a more advanced textbook, is made, and a higher standard of theme work on a variety of topics, usually chosen (subject to certain limitations) by the student himself, is expected. The emphasis throughout is placed upon writing of the most practical sort. Mj. ASSOCIATE PROFESSOR MARSH.

6. English III (3).—This course is designed to be a full equivalent of the second course in English rhetoric and composition required of all students in residence and commands corresponding credit. The course aims (1) to give training in structure, and (2) to give instruction and practice in the four forms of composition—exposition, argumentation, description, and narration. To these ends a textbook is required, lesson papers must be submitted, and a final examination taken. The written work will consist of six long themes, each from 1,500 to 3,000 words in length, and twelve short themes of from 100 to 200 words each, in addition to exercises based on the textbook. Students may gain admittance to the course by passing creditably course 5 or by submitting to the instructor an original exposition or argument showing ability. Mj. ASSOCIATE PROFESSOR HULBERT.

7. English IV.

A. *Exposition—Argument*.¹—Two Majors designed to teach the principles of expository and argumentative writing: English composition as training in logical, constructive thinking.

1 (4B).—The work consists of an analysis of models of exposition; inductive study of definition, analysis, explanation, familiar essays, criticism, reproduction, and the like; and of extensive practice in writing the various forms. Students will be permitted to write in the lines of their individual interests. Mj.

2 (4C).—Work correlative with English IVA-1; consists of a similar approach to the problems of argumentation. The course is designed on the basis of practical logic, involving critical study of logical processes of thinking, handling of evidence, detection of fallacies, and the like. Writing in the fields of the student's interests. Mj. ASSOCIATE PROFESSOR LYMAN.

B. *Story-Writing*.¹—A course of two Majors replacing the single Major entitled "Narrative and Descriptive Writing" as formerly given. It is designed to teach the principles of story-writing with particular reference to the short story. The textbook has been prepared by Mr. Grabo to meet the needs of correspondence-study students.

1 (4A).—Includes an autobiography; exercises to bring out the essentials of narrative; exercises in the point of view; exercises in the study of the unities of action, time, and place; exercises and studies in exposition and preparation; a study of short-story introductions; study of and exercises in character drawing; descriptions of persons and places; a study of the writing of dialogue. Original character sketches, descriptions, themes in dialogue, and several short stories will be demanded in this half of the course. It aims to bring out the fundamentals of story structure and is designed for those who desire to write either short stories or novels. Considerable reading in specified standard novels and short stories is demanded. Mj.

2. Continues 1 and takes up a study of story ideas; construction of plots to illustrate various types of stories; a consideration of titles and the names of characters; a study of suggestion and restraint; a study of unity of tone; a study of the psychology of story-writing. In this Major more attention is paid to the development of plot, and more original work in the short story is expected. Reading of short stories and novels is recommended—a bibliography of these is furnished with the lessons. Prerequisite: English IVB-1; but those who have received credit for "Narrative and Descriptive Writing," the English IVB of preceding years, will be permitted to register for this Major. Mj. ASSISTANT PROFESSOR GRABO.

C. *Journalistic Writing*.¹—Study is made of the News Story, the Book Review, the Editorial, and the Feature Story. The forty lessons constituting the course include (1) critical exercises, and (2) original work upon topics assigned by the instructor or approved by him from lists submitted by the student. A text is used as a basis for a part of the work. The student is expected to study the form of news stories and editorials in at least one good newspaper, to follow current topics in several of the best magazines, and to gather some of the material for his papers (notably the feature stories) from first-hand observation. Mj. ASSISTANT PROFESSOR GRABO.

8. English V. *Magazine Writing*.¹—A course of forty lessons embracing the study and the writing of the Special Article, Literary Criticism, and the Personal Essay. The student will be required to read examples of these forms and to submit analyses of them. A volume of selected essays will serve as a text for the latter part of the course. Mj. ASSISTANT PROFESSOR GRABO.

9. English VI. *Advanced Composition* (5, 6).—For students who have credit for a Major of "English IV" or for "English V" and who are desirous of receiving

¹ This course is open to others than graduates of "English III" who can present evidence, in the form of a statement of previous work and original productions, that they are prepared for it.

criticism upon essays, stories, or articles. There are no lessons or exercises, the sole requirement being that the student submit 30,000 words of original matter. The initiative lies solely with the student; the instructor confines himself to criticism and advice. It is essential that any student entering this course have definite work in mind. Others than graduates of "English IV" or "English V" will be admitted only upon the submission of MS displaying a technique adequate to the course. For single manuscripts of more than 30,000 words special arrangements and rates may be made with the instructor. Not more than a Major of credit will, however, be given for any one piece of work. Mj. ASSISTANT PROFESSOR GRABO.

Business Correspondence.—(Cf. description under Political Economy 6.)

10. Proofreading.—The course aims to equip the student with a knowledge of the practical details of typography, such as size of type, the methods employed by printers in composition, the niceties of spacing, and the work actually done by the printer in correcting proofs; to train the eye, the mind, and the memory in the application of consistent standards and the enforcement of rules of "style." With this groundwork the student is taught that proofreading is not merely a correction of misspelled words, but a profession calling for the use of a wide range of faculties, of individuality, and of independent judgment. The instruction includes actual reading of proof and a practical application of theoretical details. Before the course is completed the student will have been drilled in the fundamental essentials of English. This course and "Copy-Editing" are particularly useful to those preparing for writing advertising copy. Prerequisite: "English I" or an equivalent course. M. DR. POWELL.

11. Copy-Editing.—A practical course designed especially for those desiring to equip themselves for secretarial duties, or for filling the position of "copy-editor," and for writers and others whose work brings them in contact with printing and publishing houses as advertising copy-writers or the like. The student is trained to decide how his own manuscript, or that of others passing through his hands, should be treated and arranged for the printer, and is taught how to prescribe the appropriate typographical treatment for any class of "copy." Drill in all the practical details as well as the intellectual features of writing, by means of actual practice with all sorts of "copy," is a feature of the course. Prerequisite: course 10. M. DR. POWELL.

12. The Forms of Public Address (10).—This course is intended for students of public speaking. It gives training in the essential principles of constructive thinking, writing, and speaking, and includes gathering of information, organizing it for a definite purpose, and presenting it to meet varying conditions. In these ways the problem of organizing one's thought for public presentation, either in speech or in writing, is approached inductively through the careful analysis of certain masterpieces of public address. Among the forms studied are the following: the argument, the eulogy, the editorial, the commemorative address, the dedication, the toast, the after-dinner speech. Each student will be allowed reasonable leeway in selecting the particular form or forms of address he wishes to study intensively. Prerequisite: "English I" and "English III" or their equivalents. Mj. ASSOCIATE PROFESSOR LYMAN.

13. Versification.

A.—This course is offered for students interested in the technique of English verse. It cannot be expected that such a course will develop finished poets. But it is offered for the purpose (1) of training students in verse-writing, and (2) of giving them an understanding of the technique of verse, and hence increasing their appreciation of English poetry. The prime requisite in the student is that he have an interest in the subject, not that he have any special ability to write verse. To accomplish the purposes of the course, the student will study a textbook, make certain analyses of pieces of English verse, and write original verse of different types. Prerequisite: "English I" or its equivalent. M.

B.—For those who having completed course A desire to continue the writing of verse begun in that course and to receive criticism on their productions. There

are no specific assignments; the student is expected to choose his own subjects and forms; he may write a few long pieces of narrative or descriptive verse or many short lyrics. The instructor makes such criticism and gives such counsel as seem to him helpful to the student. Open only to students who have completed course A with a high grade. M.

ASSOCIATE PROFESSOR HULBERT

14. The Understanding of Poetry.—The purpose of this course is to develop in the student, as fully and definitely as possible, an understanding and appreciation of poetry. It studies the form of poetry (briefly), the imaginative, intellectual and realistic elements of poetry, romanticism and realism, the relation of morality to poetry, such typical forms as the lyric (ballads, sonnets) and epic, and the significance of biography and historical background. The study is made practical by means of analyses assigned in an anthology. Prerequisite: English I or an equivalent course. Mj. ASSOCIATE PROFESSOR HULBERT.

15. The Development of English Literature (40).*—This course is designed to be the full equivalent of the first required college course in English literature. It introduces the student to the whole range of English literature by requiring the reading of selected masterpieces from *Beowulf* to the present time. Selections from English authors of both prose and poetry and a short history of English literature are used as the basis of study. The aim is (1) to give the student first-hand acquaintance with typical parts of the work of the leading English writers, (2) to study the place of the masterpieces in the development of English literature in their relation not only to one another but also to historic events and conditions, (3) to give the student the foundation for an appreciation of literature. The course as a whole affords a broad introduction to the more detailed and critical study undertaken in the group of courses under 19, "English Literature by Periods." Mj. ASSOCIATE PROFESSOR MARSH.

NOTE.—For admission to any one of the following courses, course 15 or its equivalent is prerequisite.

16. An Introduction to American Literature.—A series of studies of American life in American literature. The first few lessons are given over to pre-Revolutionary literature for the purpose of observing the earliest departures from English models and traditions. Chief emphasis is, however, thrown on the poets, essayists, and novelists of the nineteenth century. While the aim of the course is to put the student in the way of obtaining a preliminary acquaintance with the subject as a whole, assigned readings are restricted to selected works of twelve or fifteen representative men of letters, from Irving and Cooper to Lanier and Whitman. Mj. ASSISTANT PROFESSOR SHERBURN.

17. An Introduction to the Study of Shakspeare (41).—This course is planned to give the student a knowledge of Shakspeare's life and work, a familiarity with typical plays of the various periods in his dramatic career, some acquaintance with his relation to his age and its literature, and an introduction to the field of Shakspearean criticism and scholarship. The following plays will be studied: *A Midsummer Night's Dream*, *Romeo and Juliet*, *I Henry IV*, *Much Ado about Nothing*, *Twelfth Night*, *Hamlet*, *King Lear*, and *The Tempest*. Mj. Mrs. BASKERVILL.

18. Play-Writing and Stagecraft.¹—The purpose of this course is to make students acquainted with drama as an art of the theater. It will be useful to (1) persons who are interested in writing plays; (2) students of literary drama who feel the need of a better knowledge of the requirements made upon the play by the theater; (3) individuals or groups whose work or pleasure brings them in touch with the arts of the theater, i.e., community leaders, recreational directors, teachers, members of dramatic clubs, etc.; (4) laymen and critics who wish to get a better understanding of tendencies and problems in dramatic writing and production. Students who take this course should, if possible, register for

¹ A set of the books required in this course may be borrowed by applying to the instructor.

"Recent Drama" at the same time. This course can easily be used for group study; for particulars consult the Secretary.

A. *The Art of the Theater*.—Study and analyses of: (1) six famous theaters; (2) elements of dramatic structure; (3) elements of stage technique. M.

B. *Writing and Producing the Play*.—Supplements the analysis of course A by exercises in play-writing and play production. The student will submit scenarios and at least three plays. Some of them will be original work and the others will be adaptations from stories. M. MR. JAMESON.

19. *English Literature by Periods (42-48)*.—A series of seven Majors which cover with some minuteness the history of English literature from the middle of the sixteenth century down to 1892. In each Major the work consists mainly in the reading of a large number of representative masterpieces of the period and the preparation of answers to questions based upon this reading. A set of the books used in each Major, except the last one (F2), may be borrowed for a fee of \$5.00 plus carrying charges both ways. Textbook work in a literary history of each period is assigned and the lesson-sheets furnish much supplementary material, such as bibliographies of the selected authors, suggestions for study of their principal works, etc. It is not necessary that the series be taken in chronological order, as each course is complete in itself; but those intending to take the whole series are advised to follow the chronological order. The series as a whole is designed to give first-hand knowledge of the chief masterpieces of modern English literature. Persons who have had course 15 or its equivalent, and who desire to do systematic reading of English literature without regard to college credit, may also arrange for any of these courses.

A. *English Literature from 1557 to 1599 (42)*.—Reading from Spenser (at least one book of the *Faerie Queene* and various shorter poems), Wyatt, Surrey, Sackville, Sidney, Marlowe, and the other principal Elizabethan poets; Ascham's *Schoolmaster*, Sidney's *Defence of Poesie*, Lyly's *Euphues*, Lodge's *Rosalynde* and other prose works of the period. The plays of Shakspeare and of other dramatists are omitted because covered in other courses. Mj.

B. *English Literature from 1599 to 1660 (43)*.—Reading of poems by Milton (his early work), Herrick, and all the chief Jacobean and Caroline poets; plays by Jonson, Beaumont and Fletcher, and the other principal playwrights up to the closing of the theaters; prose by Bacon, Browne, Milton, Taylor, Walton, and others. The works of Shakspeare are omitted because covered in other courses. Mj.

C. *English Literature from 1660 to 1744 (44)*.—Reading of representative prose by Bunyan, Dryden, Pepys, Addison, Steele, Swift, Defoe; Milton's late poems (several books of *Paradise Lost*, *Samson Agonistes*, etc.), and the chief poems of Dryden, Pope, Thomson, and various minor poets; plays by Dryden, Otway, Wycherley, Congreve, and other Restoration dramatists. Mj.

D. *English Literature from 1744 to 1798 (46)*.—Reading of novels by Richardson, Fielding, Smollett, Sterne, Johnson, Goldsmith, the so-called "Gothic" romancers, and Fanny Burney; miscellaneous prose by Johnson, Goldsmith, Boswell, Gibbon, and Burke; poems by Gray, Collins, Goldsmith, Chatterton, Blake, Cowper, Crabbe, Burns, and others; plays by Goldsmith and Sheridan. Mj.

E. *English Literature from 1798 to 1832 (47)*.—Poems by Wordsworth, Coleridge, Southey, Scott, Campbell, Moore, Byron, Shelley, Keats, Hunt, Hood, Landor; novels by Scott and Jane Austen; miscellaneous prose by Coleridge, Lamb, Hazlitt, DeQuincey, the reviewers, etc. Mj.

F. *English Literature from 1832 to 1892*.

1. Poetry (48A).—The principal poems of Tennyson, the Brownings, Matthew Arnold, Clough, the Rossettis, George Meredith, William Morris, Swinburne, and others are studied. Mj.

2. Prose (48B).—This deals with Carlyle, Macaulay, Newman, Arnold, Pater, Ruskin, Stevenson, Borrow, and others; and also includes reports on novels by Dickens, Thackeray, George Eliot, the Brontës, Meredith, Hardy, and others. Mj.

ASSOCIATE PROFESSOR MARSH.

COURSES A-F (or their equivalents) are required of all candidates for the Doctor's degree in English, and at least four of them (or equivalents) for the Master's degree. Hence, though a year of resident study is required for the Master's degree and three years for the Doctor's degree, students may take these required courses by correspondence and later do more highly specialized work in residence. Credit for these courses as prerequisites for graduate degrees will be given to properly prepared students who do creditable work in their recitation papers and pass the final examination given on each course. Students not in the Graduate School may register for any of the courses, the only prerequisite being course 15 or its equivalent.

20. The History of the English Language (34A).—This course is offered in the belief that an understanding of what language is and of what the history of the mother-tongue has been is as important as a study of some part of its literature and indispensable to the latter study. It attempts to give a general survey of the development of the English language; its relation to other languages; the chief periods; the development of forms, sound and meanings, and foreign influences. Prerequisite: "English III" or two years of college work. Mj. ASSOCIATE PROFESSOR HULBERT.

21. Development of the English Novel.—The history of English fiction is studied from the first novel in the sixteenth century to the works of the leading novelists of the present day. There is presented a brief discussion of story material before its novelization, and such consideration of matters of technique as will enable the student to consider fiction from the three fundamental points of view: (1) as social history; (2) as a vehicle for conveying personal attitudes and reactions; and (3) as a growing and developing art. Though the two Majors are designed to be taken together and in historical sequence each is complete in itself and may be taken alone.

A. *From Lyly's Euphues to the End of the Eighteenth Century* (87A).—This course includes the reading of about twenty novels, by Lyly, Sidney, More, Lodge, Greene, Nashe, Bunyan, Defoe, Richardson, Fielding, Smollett, Sterne, Burney, Goldsmith, Walpole, Beckford, Radcliffe, Brooke, and Godwin. Mj.

B. *From Jane Austen to Arnold Bennett, Galsworthy, and H. G. Wells* (87B).—The novels read are by Austen, Scott, Disraeli, Bulwer-Lytton, Dickens, Thackeray, Trollope, Reade, Brontë, Kingsley, Gaskell, George Eliot, Meredith, Hardy, Stevenson, James, Kipling, Conrad, Bennett, Galsworthy, and Wells. Mj.

MISS MORGAN.

22. The Drama in England from 1500 to 1600 (84).—This course includes a brief introductory survey of the mediaeval drama, a more detailed consideration of Renaissance drama, with the development of new types and new theatrical conditions, and finally a study of the development of a native romantic drama as revealed in the work of Lyly, Peele, Kyd, Greene, and Marlowe. Mj. PROFESSOR BASKERVILL.

23. The Drama in England from 1600 to 1642 (85).—This course deals with the rise of the comedy of humors and of manners, with the perfection and decadence of tragedy, and with the later phases of romantic comedy. Masterpieces of Jonson, Dekker, Heywood, Beaumont and Fletcher, Middleton, Webster, Massinger, Ford, and Shirley are studied, with attention not only to the characteristics of these writers but to their interrelations, their influence on the course of the drama, and their reflection of social conditions. Mj. PROFESSOR BASKERVILL.

24. The Plays of Shakspeare.—In two Majors is offered a rapid but fairly full survey of the plays of Shakspeare in chronological sequence. Attention will be directed to Shakspeare's handling of character and plot, to the development of his taste and technique, to the influence exerted upon his work by the literary and social trends of the time and to evidence, for dates, editions, sources, etc., for the individual plays.

A. *The Plays of Shakspeare from 1591 to 1599 (70A).*—This course, covering the plays through *Much Ado about Nothing*, includes the early tragedies and comedies, the chronicle plays, and the first masterpieces in comedy. The structure of comedy, the characteristics of witty comedy, Shakspeare's early style, and the reflection of social conditions in his comedies of this period are stressed. Mj.

B. *The Plays of Shakspeare from 1599 to 1611 (70B).*—This course, beginning with *Julius Caesar* and *As You Like It*, includes the chief tragedies, the Roman plays, and the comedies of the middle and later periods. Especial emphasis is laid on the structure and art of tragedy, on the satiric element in the earlier plays of this period, and on the dramatic seriousness of Shakspeare's work. Mj.

PROFESSOR BASKERVILL AND MRS. BASKERVILL.

NOTE.—Course 17 or its equivalent is a prerequisite for courses 22, 23, and 24. Students who wish to get a connected view of Renaissance drama are advised to take, in sequence, courses 22, 23, and 24.

25. *Wordsworth and His Development of Romanticism.*—A study of the poet's most significant works. M. MISS MORGAN.

26. *The Works of Robert Browning.*—In these two Minors the readings are arranged to acquaint the student with Browning's characteristics as an individual, a thinker, and an artist. Browning's significance as a representative of the later romantic poets and his relations to present-day poetic art are emphasized.

A. *Studies in the Shorter Poems.*—After the student has completed the introductory assignments which are designed to acquaint him with Browning's development as an individual, the readings are so arranged as to give the student an opportunity to concentrate his attention on characteristic "Browning Problems." These problems relate to Browning's theories of art, religion, and science and to his characteristic use of matter and form. M.

B. *The Ring and the Book and Dramas.*—Attention is directed toward Browning's experiments with narrative poetry and drama and to the relations between his thinking and his writing. Students who are qualified may, if they choose, study the solutions of technical problems offered by Browning as compared to the solutions offered by Conrad or Masefield. M.

MR. JAMESON.

27. *Studies in the Poetry of Tennyson.*—The purpose of this course is to study Tennyson's poetic craftsmanship and his historic and aesthetic relations to the poets and thinkers of his time. The latter part of the course examines and tests Tennyson's answers to problems that are typical of nineteenth- and twentieth-century civilizations. M. MR. JAMESON.

28. *Representative English Essayists of the Nineteenth Century.*—An advanced study of six essayists, including a brief preliminary discussion of the appearance in England of the essay and its development as a literary form. The work is based upon typical essays of Lamb, De Quincey, Macaulay, Carlyle, Ruskin, and Arnold. The method of study is the biographical and historical and, to a limited extent, the philosophical. Emphasis is laid upon the intimate relation of literature to the forces of social life. Mj. MISS MORGAN.

29. *The Short Story in English and American Literature.*—In connection with a brief résumé of the history of the short story in England and America students will read, critically, a number of representative stories by Irving, Hawthorne, Poe, Dickens, Bret Harte, Henry James, Page, Cable, Stockton, Davis, "O. Henry," Mary E. Wilkins, Hardy, Doyle, Stevenson, Conrad, Kipling, and others. The critical study will be devoted principally to investigation of the methods by which effectiveness is secured. Mj. ASSOCIATE PROFESSOR MARSH.

30. *The Irish Literary Revival.*¹—A study of the achievements of the modern Irish writers, their revival of the older Irish literary traditions, and their significance in modern literature. The course opens with a survey of Celtic myth, legend, and romance; proceeds with the living folk literature, fairy tales, and

¹ A set of the books required in this course may be borrowed by applying to the instructor.

songs, and concludes with readings in the works of modern poets and dramatists—Yeats, Synge, Hyde, Lady Gregory, James Stephens, AE, George Moore, and others. M. MR. JAMESON.

31. Elementary Old English (21).—This course aims (1) to train the student in the translation of simple Old English, and (2) to give him a solid basis in grammar. Incidentally it introduces the student to philological methods and to historical English grammar. Bright's *Anglo-Saxon Reader* is used. Mj. ASSOCIATE PROFESSOR HULBERT.

32. Intermediate Old English (22).—In this course the drill begun in course 31 is continued, and in addition Old English meter and poetic style are studied. The poems in Bright's *Reader* and about 500 lines of *Beowulf* are read. Mj. ASSOCIATE PROFESSOR HULBERT.

33. Advanced Old English (23).—The remainder of *Beowulf* is studied with reference not only to its language but to its stylistic and literary features. Mj. ASSOCIATE PROFESSOR HULBERT.

34. Introduction to Chaucer (28).—May be taken by students who have had no training in Middle English. Along with the reading of selected poems there is study of the main facts regarding Chaucer and his works. Mj. ASSOCIATE PROFESSOR MARSH.

35. English Grammar for Teachers (33).—A much more advanced course than the one numbered 1, page 35, presupposing a fairly good knowledge of the subject. The recommendations of the Joint Committee on Grammatical Nomenclature are embodied. Some stress is laid on the textbooks available and on the problems with which teachers have to deal. Mj. ASSOCIATE PROFESSOR MARSH.

For other courses for teachers of English see p. 66.

GENERAL LITERATURE

This Department offers work to two distinct classes of students: (1) those doing graduate work in comparative literature, for whom a knowledge of the original languages and some previous training in literature are indispensable; (2) those doing undergraduate work, who wish to become acquainted with foreign literatures for the purpose of general culture, and for whom a reading knowledge of the original languages, though desirable, is not necessary. The courses presuppose "English I" and "The Development of English Literature" or their equivalents.

1. World-Literature for English Readers (1).—This course surveys the literature of the world and notes its influence upon the culture of English-speaking peoples. Moulton's *World Literature* will furnish the point of view and the historic background for the course. This will be supplemented by the reading, wholly or in part, of selected masterpieces, among which will be the five literary Bibles theoretically treated in the textbook—the Holy Bible, Classic Epic and Tragedy, Shakspeare, Dante and Milton, and versions of the story of Faust. There will also be readings in comparative literature, studies in collateral literature, and a survey of strategic points in the development of literature as a science. It is primarily a college course, but it is also adapted to the needs of the general reader. Works not English will be read in translation. Books for the required reading may be found in any well-selected library or may be borrowed from the University by arrangement with the Director of the Libraries. Mj. MISS SCHRADER.

2. Ancient Epic and Tragedy for English Readers (3B).—The aim of this course is to present Greek epic and tragedy from a purely literary point of view. It will include a study of the poetic heroes of the Argonautic Expedition and of the Trojan War. The works will be read in translation and in the order of the story sequence rather than in the chronological order of their authorship. Under the myth of the first generation *The Argonauts* of Apollonius, *Medea* of Euripides, and *Jason* of William Morris (a modern reconstruction) will be read. A larger

selection of works will be included under the myth of the second generation, including the *Iliad*, the *Odyssey*, and tragedies of Aeschylus, Sophocles, and Euripides that touch the story of the Trojan War. Besides noting the place these works occupy in the progressive development of a story sequence, both epics and tragedies will be studied with reference to structure and general technique. Vergil's dependence upon Homer and his influence upon mediaeval literature will also be noted. Mj. MISS SCHRADER.

3. The Literary Study of the (English) Bible (2).—This course is intended for those who teach or expound the Bible and for those who merely read it as a part of universal literature. The aim of the course is (1) to familiarize the student with the literary forms found in the Scriptures, under the general divisions of Lyric Poetry, History with Epic, Wisdom Literature, Prophecy, and forms of Address; (2) to show how the separate books of the Bible when read in their literary sequence draw together with a literary connection like the unity of a dramatic plot. Moulton's *The Literary Study of the Bible* and *The Modern Reader's Bible*—in which the books of the Bible with three of the Apocrypha are edited in modern literary form—are the required texts. Mj. MISS SCHRADER.

4. Dante and Milton (5A).—The purpose of this course is to familiarize the student with the special significance of Dante as an interpreter of Mediaeval Catholicism and of Milton as a revealer of Renaissance Protestantism. The study will include a brief survey of the life and early work of each of the poets, but emphasis will be placed upon the *Divina Commedia* and *Paradise Lost*, as these embody the spirit of progressive civilization. Special attention will be given to the structure of the poems as related to the matter presented; to the aspects of good and evil as interpreting the philosophical thought of Mediaevalism and the Renaissance, and to the elements of creative excellency, which give to both Dante and Milton a place among the supreme poets of the world. For the study of Dante, Plumtre's metrical translation is recommended, but the prose translation of C. E. Norton may be used; for the study of Milton the Cambridge edition of *Milton's Poetical Works* will be used. The required work of the course is based upon matter contained in the texts, but bibliographies are included, and recommended readings are cited to aid the student who desires to supplement the required work with more exhaustive study. Mj. MISS SCHRADER.

5. The Modern Study of Literature.—Aims to treat the whole theory of literature. It presents the morphology, evolution, and criticism of literature and reviews its philosophic and artistic aspects. Its foundation principles are inductive observations with emphasis upon evolutionary processes; its field of view is the ideal conception of the unity of all literature. Moulton's *The Modern Study of Literature* is used as a textbook and guide. Either Major may be taken by itself if desired.

A. *The Foundation Principles of the Study of Literature* (40).—The design of this course is to grasp the form and structure of literary expression and to define the field and scope of literary activity as seen in the history of world-literature. It also presents literature as a mode of philosophy and as a mode of art. The textbook will be supplemented by the reading of selected works which will illustrate and explain the various subjects treated in the course. Mj.

B. *Literary Criticism and Theory of Interpretation* (41).—This course will make clear the traditional confusion and the modern reconstruction of literary criticism. After the four leading types of criticism have been mastered, the course will fall into two parts: (1) an exposition of the criticism of interpretation; and (2) a formulation of the leading principles of speculative criticism. As in course A, the textbook will be supplemented by selections from Shakspeare and other masters of literature. Mj.

MISS SCHRADER.

6. Recent Drama (10).¹—Recent drama reflects to a remarkable degree current habits of thinking and living. It reflects the problems raised by large-

¹ A set of the books required in this course may be borrowed by applying to the instructor.

scale industry, the problems that result from a rapid civilization and the typical answers and analyses of these problems offered by Ibsen, Bjornson, Strindberg, Sudermann, Hauptmann, D'Annunzio, Tchekoff, Shaw, Galsworthy, Rostrand, Yeats, Synge, Maeterlinck, and others. The readings are arranged to meet the needs of two classes of students: (1) professional men and women who wish to increase their knowledge of literature but hesitate to take courses in the earlier periods; (2) students and teachers of literature who need direction in selecting typical plays from a large number of important ones. Some attention is paid to recent theories of the art of the theater because these theories have been influential in defining the spirit of many recent plays. The course is flexible and can be adapted somewhat to meet individual requirements. (Cf. "Play-Writing and Stagecraft.") Prerequisite: "English I" and "The Development of English Literature." Mj. MR. JAMESON.

7. The Modern Novel.¹—The readings in this course are arranged to introduce the student to tendencies in recent fiction. A study is made of the analyses presented in the novels of the social and human problems of recent times. Some attention is given to the significance of the books in the history of literature, the meaning of the critical theories they imply, as well as their importance in interpreting the thought of modern Europe. The course can be adapted to meet the needs of students who have already become acquainted with some of the modern novels. Such students should consult the instructor. Prerequisite: "English I," "The Development of English Literature" and "English Literature by Periods, -F (2)" or their equivalents. Mj. MR. JAMESON.

8. Contemporary Literature and Current Problems (152).¹—This course is designed as an untechnical survey of contemporary novels, plays, and essays that reflect the changing social, political, and ethical conventions of the day. Effort will be made to trace them, as far as possible, to such nineteenth-century influences as Nietzsche, Ibsen, Maeterlinck, Shaw, and the socialist, anarchist, and decadent movements. Particular attention will be paid to the conflict of ideas popularly embraced under the head of "feminism"; to the present resurgence of individualism; to the aesthetic problems of present-day realism. The course will be based upon typical works by such novelists as Wells, Galsworthy, Cannan, Beresford in England, and Herrick, Edwards, Dreiser in America, by such a dramatist as Barker, and by such essayists as Walter Lippman, Olive Schreiner, and Ellen Key. Although outlines will be used, anyone who enters this course should be capable of forming independent judgments of the works studied. Mj. MR. JAMESON.

Literature and History of the Arabs.—(Cf. description under Oriental Languages and Literatures 14.)

MATHEMATICS

HIGH SCHOOL

1. Elementary Algebra.

A.—This course is designed for beginners and deals in a very simple way with the elementary principles of algebra. The principal topics discussed are: the four fundamental operations of algebra, solution of linear equations and of systems of simultaneous linear equations, together with an introduction to the subject of graphs. Mj.

B.—This course presupposes A and deals with factoring, fractional and literal equations, radicals, graphics, quadratics and simultaneous quadratic equations. Mj.

C(00).^{*}—In this course emphasis is placed on standard algebraic forms such as the student is likely to meet in later work in mathematics and physics, and

¹ A set of the books required in this course may be borrowed by applying to the instructor.

especially such as were too complicated for discussion in either of the preceding Majors. In general this course covers the ground of "Advanced Algebra" as given in the ordinary high-school curriculum. It concludes the study of quadratic equations, deals with ratio, variation and proportion, exponents and radicals, and gives fair attention to logarithms (a four-place table being used) and progressions. Mj.

ASSOCIATE PROFESSOR LAVES.

2. Plane Geometry.

A(01).*—Embraces a study of Books I and II. The theory is well illustrated by numerous original exercises. Mj.

B(02).*—Continues A and covers Books III–V. Mj.

ASSOCIATE PROFESSOR LAVES.

3. Solid Geometry (0).*—Here, as in plane geometry, the main emphasis is laid on exercises calling for original work. Mj. ASSOCIATE PROFESSOR LAVES.

Descriptive Geometry.—A series of four Majors. (Cf. description under Drawing C.)

COLLEGE

4. Plane Trigonometry (1).—Theory and practice in the solution of triangles by natural functions and logarithms. Applications to simple problems of surveying, physics, and astronomy. Properties of the trigonometric functions treated analytically and graphically. Applications to simple harmonic and wave motion. Mj. PROFESSOR WILCZYNSKI OR DR. GOKHALE.

5. College Algebra (2).—The notion of variable and function and their geometric representation. Variation. Equations of the first degree and determinants. Quadratic equations, complex numbers, and theory of equations. Fractional and negative exponents, exponentials, and logarithms. Mathematical induction, binomial theorem, and progressions. Undetermined coefficients, permutations and combinations. Mj. DR. GOKHALE.

6. Plane Analytic Geometry (3).—Rectangular, oblique, and polar co-ordinates in the plane. The relation between a curve and its equation. The algebra of a variable pair of numbers and the geometry of a moving point. Specific applications to the properties of straight lines, circles, conic sections, and certain other plane curves. Mj. DR. GOKHALE.

7. Solid Analytic Geometry (31).—The co-ordinate systems in space. Lines, planes, and quadric surfaces. General properties of surfaces and space curves. (Informal.) Mj. DR. GOKHALE.

8. Calculus with Applications.—This is designed for students intending to pursue the study of pure or applied mathematics as well as for those who are actively engaged in work which presupposes a knowledge of calculus. An important feature throughout is the large number of practical applications. In dynamics, physics, mechanical and electrical engineering a working knowledge of the calculus is essential. Therefore in the exposition of the theory dynamical, physical, and geometrical illustrations are freely used. It is the aim to acquaint the student with the kind of mathematics which he will find useful and to cultivate the power of applying the principles of the calculus, at first to simple, then to more difficult, practical problems. The course is divided into three parts; for the first of them, A, a knowledge of solid geometry, trigonometry, college algebra, and plane analytic geometry is requisite.

A (18).—This deals mainly with the differential calculus and applications. Mj.

B (19).—Chief attention is given to the integral calculus and applications. Mj.

C (20).—This provides: (1) a continuation of the treatment of several topics begun in A and B; (2) applications of the calculus; (3) a brief treatment of differential equations. Mj.

PROFESSOR WILCZYNSKI OR DR. GOKHALE.

9. Theory of Equations (22).—The fundamental properties of algebraic equations, their transformation, and the approximate determination of their roots. Determinants, symmetric functions, and invariants. Mj. PROFESSOR WILCZYNSKI OR DR. GOKHALE.

Analytical Mechanics.—(Cf. description under Astronomy 2.)

10. Differential Equations (47).—Discussion of problems which lead to differential equations and of the standard methods for their solution. (Informal.) Mj. DR. GOKHALE.

11. Projective Geometry (29).—A first course in the subject based essentially on a synthetic treatment. (Informal.) Mj. PROFESSOR WILCZYNSKI.

The History of Astronomy.—(Cf. description under Astronomy 4.)

For courses for teachers of Mathematics see pp. 67 ff.

Members of the Mathematical Department will endeavor to arrange informal courses for students who are able to do work of an advanced nature, whenever practicable.

ASTRONOMY

1. Descriptive Astronomy (1).—An elementary general-culture course designed (1) to furnish an idea of the principles, methods, and results of the science; (2) to show the steps by which the remarkable achievements in it have been attained; and (3) to unfold that extended horizon which astronomy has laid open. This work covers the recent investigations respecting the origin and development of the solar system. Moulton's *Introduction to Astronomy* (rev. ed.). (Informal.) Mj. or DMj. PROFESSOR MOULTON.

2. Analytical Mechanics.

A (5).—An elementary course aiming to give the students a firm grasp of the physical principles involved, leaving aside at first all mathematical developments which do not contribute directly to this end. By the solution of graded problems the student is taught to use his knowledge of mathematics in the solution of concrete problems of nature. The course includes a short introduction to the underlying principles of the motion of a particle. The main body is devoted to the statics of a system of particles and of rigid bodies. Prerequisite: Differential and Integral Calculus. Mj.

B (6).—Continues A and deals with the dynamics of a particle and of a system of particles. The motion of rigid bodies, together with a short study of generalized co-ordinates, completes the course. Mj.

ASSOCIATE PROFESSOR MACMILLAN.

3. Celestial Mechanics (22, 23).—A treatment of the dynamics of the solar system, including the contraction theory of the heat of the sun, the attraction of bodies, the two-body problem, determination of orbits, the general integrals of motion, the three-body problem, and perturbations. Moulton's *Introduction to Celestial Mechanics*. Prerequisite: Differential and Integral Calculus. (Informal.) DMj. PROFESSOR MOULTON OR ASSOCIATE PROFESSOR MACMILLAN.

4. The History of Astronomy.—This is a culture course on the subject for persons who desire to familiarize themselves with the scientific ideas, methods, and results that have determined scientific progress down to recent times. The history of no science so fully exhibits the complete scientific method as does the history of this oldest, most complete, and most exact of all the sciences. A careful study of it may well constitute a part of a liberal education. It is both stimulating and directly helpful to teachers of high-school science and mathematics. A real basis for much of the high-school mathematics is furnished by supplying the astronomical setting from which it sprang. Mj. PROFESSOR MYERS.

PHYSICS

1. Elementary Physics.

A. *Mechanics, Molecular Physics, and Heat* (1).^{*}—This course is designed to cover the first half-year's work in elementary physics as given in high schools and academies. A text is followed rather closely but the assignments in it are supplemented by new problems and references to other textbooks. The apparatus for the required laboratory work is packed in a special case and shipped to the student. Instructions for setting up the apparatus and performing the experiments are sent with the lessons as the work progresses. Reports on both the reading and laboratory work are submitted by the student for approval or correction. A deposit of \$20.00 is required for the loan of the apparatus. This will be refunded when the same is returned intact, less expressage and \$5.00, the loan fee. Mj.

B. *Electricity, Magnetism, Sound, and Light* (2).^{*}—A continuation of course A and the equivalent of the second half-year of high-school physics. The plan for text and laboratory work laid down under course A is followed in this course. A deposit of \$20.00 is required for the loan of apparatus. This will be refunded when the same is returned intact, less expressage and \$5.00, the loan fee. Mj.

MR. RANSOM.

CHEMISTRY

1. General Inorganic Chemistry.—The two Majors into which the work is divided furnish a review and a continuation of elementary chemistry and form the link between the average high-school course in chemistry and "Qualitative Analysis." In view of the fact that students will have different degrees of preparation the number of lessons may be varied by omitting such parts of the subject as the student may already have mastered; in this way the work will be adapted to individual needs and waste of time and effort will be avoided. A balance sensitive to one centigram is essential for the course. If the student has not access to such a balance, he must either purchase one, together with weights—50 gm. to 0.01 gm.—or he can borrow one from the University. The deposit for this is \$20.00. He must also have access to a barometer, which cannot be loaned by the University, but there are few places in which a barometer cannot be found. The rest of the *apparatus* needed for either course A or B will be loaned for a deposit of \$20.00. The *chemicals* necessary for course A will be loaned for a deposit of \$10.00, and those for course B for \$15.00. When the equipment is returned, the deposits will be refunded, less the cost of checking, non-returnable and missing parts, breakage, carrying charges, and a fee of \$2.00 for the use of the apparatus in each Major, \$3.00 for the chemicals in course A, \$4.00 for those in course B and \$2.50 for the balance.

A (2S).—This course consists essentially of a presentation of the fundamental principles of chemistry, illustrated chiefly by the chemistry of oxygen, hydrogen, and the halogens. Such topics as the behavior of gases; molecular and atomic theory; molecular and atomic weights; formulas and chemical equations; elements of the theory of solutions, of velocity of reaction, of chemical equilibrium, and of ionization are considered. The laboratory work illustrates the principles developed and affords opportunity for gaining direct knowledge of the different substances studied, their modes of preparation, and their properties. Prerequisite: high-school chemistry and physics. Mj.

B (3S).—Continues course A and takes up the periodic system of the elements, an elementary presentation of the theory of oxidation and reduction, and applications of the principles developed in the preceding course, especially the theory of ionization. It includes a presentation of the chemistry of the following elements: sulphur, nitrogen and the nitrogen group, carbon and the carbon group, and the metallic elements. Mj. PROFESSOR SCHLESINGER.

2. Qualitative Analysis.—The second year of college work in chemistry includes two Majors of Qualitative Analysis ("A" and "B" below) and "Elementary Organic Chemistry." "Qualitative Analysis—C" is a graduate course

and is taken usually after work in Quantitative Analysis. The apparatus and the reagents for any one of the following three Majors will be loaned for a deposit of \$35.00 (or \$20.00 for the apparatus and \$15.00 for the chemicals if either alone is wanted). If only the set of sixty glass-stoppered bottles required for the necessary solutions is needed, they will be loaned for a deposit of \$6.00. The deposit will be refunded when the outfit is returned, less deductions for the loan (\$2.00 for the apparatus, \$4.00 for the chemicals, \$0.50 for the bottles, if only the set of bottles is borrowed), inspection, and broken and missing parts. Carrying charges must be paid by the student on receipt of the outfit and must be prepaid by him when he returns it. An extra charge of \$1.00 is made for the "unknowns" furnished in each of the courses, A, B, and C.

A (6).—This course aims to present the fundamental methods of Qualitative Analysis. The analytical reactions of the most important metals and acids are studied. This is done in such a way that the student learns the art of performing tests and comes to understand how the methods of separation and detection are based upon a judicious selection and arrangement of these tests. During the course each student analyzes a number of mixtures which contain, in each case, only the metals or acids of a single group. Qualitative Analysis has been modified by the influence of physical chemistry. The theories of solution and of electrolytic dissociation and the study of problems in chemical equilibrium have all contributed to furnish analytical chemistry with a scientific foundation which it never possessed before. Course A is planned to develop the subject with this scientific, theoretical foundation and at the same time to give a thorough foundation in *systematic analysis*. Prerequisite: "General Inorganic Chemistry" (A and B) or the equivalent. Mj.

The *theoretical part of course A* may be taken as a half-major by a student who has had an adequate laboratory course in Qualitative Analysis and who wishes to review the theory or to familiarize himself with the modern theory of Qualitative Analysis as based on physical chemistry (equilibrium relations, ionization, precipitation, complex ions, the electrical theory of oxidation and reduction, etc.). M.

B (7).—Continues course A and gives the student practice in the *systematic analysis* of simple salts, simple mixtures, and, finally, of rather difficult mixtures in which the metals and acids are to be determined. Fifteen to twenty "unknowns" will be analyzed. The main object of the course is to develop *accuracy and reliability*, and these must be demonstrated in the final analyses to secure credit. Mj.

C (10).—Continues course B and requires the analysis of complicated mixtures, and especially the analysis of minerals and commercial products. Mj.

PROFESSOR STIEGLITZ.

3. **Elementary Organic Chemistry** (4).—This course is taken in the second year of college work and presents in outline a survey of the fundamental principles of Organic Chemistry and of the main classes of organic compounds. For the convenience of the beginner the theoretical presentation follows in large measure the development given in one of the best college texts, but it is brought up to date, and by numerous supplementary discussions it indicates in perspective the lines of thought and development which would be followed in a more advanced study of the subject. The chemical discussion is accompanied by, and in large measure is based on, experimental work, illustrating the principles presented and the chemical behavior of the important classes of organic compounds studied. On account of the inflammable nature and the high volatility of many of the compounds used there is a greater element of danger in this course than in the ordinary chemistry courses, due to the risk of fire and of explosions from faulty or careless manipulation. Directions for avoiding accidents are made as explicit as possible, but the course should be taken only by those who through experience as teachers or as workers in commercial laboratories have confidence in their own carefulness. The *apparatus* for this course will be loaned for a deposit of \$30 (or \$25 if the ironware is not wanted). When the outfit is returned the deposit will be refunded less the cost of non-returnable, broken, or missing parts, packing,

and inspection charges, and a loan fee of \$3.00. Most of the *reagents* required will be found in the average laboratory, but a number of special organic and inorganic chemicals are required which will not usually be at hand. These may be ordered from a supply house or they may be borrowed from the University for a deposit of \$5.00. When they are returned, a loan and inspection fee of \$3.50 will be deducted and the balance will be refunded to the student. Carrying charges must be paid by the student on receipt of the outfit and must be prepaid by him when he returns it. Prerequisite: courses 1 (A and B) and 2 (A and B) or equivalents. Mj.

The *theoretical part of this course* may be taken as a half-major by a student who has had an adequate laboratory course in organic chemistry and who wishes to review the theory from an up-to-date point of view. M. ($\frac{1}{2}$ Mj.).

PROFESSOR STIEGLITZ.

GEOLOGY AND PALEONTOLOGY

HIGH SCHOOL

1. Physical Geography.—This course is designed especially for high-school students or those desiring a course equivalent to that given in a first-class high school. The lessons treat of the form of the earth and its solar relationship; the work of running water, underground water, waves, glaciers, and the atmosphere as agencies which are at present, as in the past, modifying the earth's surface; and the phenomena of vulcanism and movements of the earth's crust. Some attention is given to climate. Mj. ASSOCIATE PROFESSOR BRETZ.

COLLEGE

2. Physiography (1).*—The course embraces the following general subjects: (1) the form of the earth as a whole and its relation to other members of the solar system, particularly the sun and the moon, with the consequent changes in the length of day and night and the seasons; (2) the atmosphere—its constitution, temperature, pressure and movements, weather changes and climate; (3) the ocean—its constitution, temperature, movements, geologic activities, coastline phenomena; (4) the land—the geologic processes by which the earth's topography has been chiefly determined and the varied topographic types which result therefrom, including the study of the origin and development of plains, plateaus, river valleys, mountains, volcanic cones, islands, and seashore features. The effects of man's physical environment upon his distribution, his habits, and his occupations will be continually emphasized. Topographic maps and folios will be studied, and the maps will be used in connection with land forms. The rocks and minerals forming the earth's crust will be treated as fully as the course permits. The last lessons will give the student some opportunity to do individual field work. Laboratory methods will receive attention throughout the course. The course is suited to the needs of those who teach physical geography and physiography in preparatory schools. If a student has credit for Geography 1, this course will yield only one-half Major. Mj. ASSOCIATE PROFESSOR BRETZ.

3. General Geology (5).—This course treats of the leading facts and principles of geology and the more important events of geological history. It embraces the following general subjects: (1) the materials of the earth; (2) physiographic geology—the work of atmosphere, running water, glaciers, waves and currents, and organic agencies treated in a manner to supplement the physiographic studies of course 2; (3) vulcanic, diastrophic, and structural geology; (4) elementary studies in the interpretation of topographic and geologic maps; (5) historical geology—a systematic study of the development of the series of geological formations, with special reference to the evolution of the North American continent and the historical development of life-forms; (6) economic geology; (7) a special general geological report on a particular area in the student's own vicinity. This course is adapted to the needs of teachers in high schools and

academies, to those interested in economic geology, and also to students not intending to specialize in geology. Course 2, while desirable, is not a prerequisite. Mj. ASSOCIATE PROFESSOR BRETZ.

4. Elementary Mineralogy (3).—A course intended to familiarize students with the common minerals. A large part of the work will consist in determining, principally by means of their physical properties—streak, hardness, cleavage, specific gravity, etc.—the 85 or 90 specimens which will be furnished. The origin, occurrence, and economic uses of each mineral also will be studied. The work on minerals will be supplemented by a brief discussion of the rocks, their modes of formation, occurrence, and classification. The course is intended for beginners, and no previous geological training is required, but an understanding of a few of the fundamental principles of chemistry is highly desirable. The streak plate and the set of specimens will be furnished for a fee of \$6.00. A small hand lens and a specific-gravity balance will be very useful and if possible should be procured by the student. The set of minerals becomes the property of the student and will serve for future reference or as a nucleus for a collection. Mj. DR. MACCLINTOCK.

5. Economic Geology (2).—This course is designed to give a general knowledge of the principles governing the formation and occurrence of the more important ores and non-metalliferous deposits, and of the conditions, commercial and otherwise, which limit their exploitation. It covers the study of (1) structural materials—including building stones, clays, limes, mortars, and cements; (2) fuels—including coal, petroleum, and natural gas; (3) principles controlling the deposition of metalliferous ores—including the nature and genesis of ores, the forms of ore bodies, and their relations to the structural features of the containing rocks, the formation of cavities in rocks, underground waters, their composition, circulation, etc.; (4) ores of metals—including iron, copper, lead, zinc, gold, and silver. No attempt is made to cover the entire field, but typical districts or occurrences are studied in each case. Incidentally it is hoped the student will learn how to study a district independently and to that end he will be put in touch with the general literature of the subject. The student is expected to be familiar with the common rocks and minerals. Prerequisite: elementary chemistry and course 3 or a practical knowledge of geology gained by experience in mining or the like. Mj. DR. MACCLINTOCK.

ZOOLOGY

1. Elementary Zoölogy (1).—An introduction to the general principles and concepts of zoölogy for premedical and other students. The laboratory work includes (a) observations, dissections, and experiments upon unicellular animals (*Amoeba* and *Paramoecium*); (b) a higher invertebrate type, such as the earthworm and crayfish; (c) a vertebrate type (the frog); (d) a study of embryology and of cell division. A fee of \$5.00 will be charged for the materials furnished and the loan of slides. A compound microscope magnifying 400 diameters, a hand lens, and a set of dissecting instruments will be needed. The cost of instruments (exclusive of microscope and hand lens) need not exceed \$3.75. Mj. PROFESSOR NEWMAN.

2. Elementary Entomology (4).—The course opens up the large field of general entomology, and at the same time furnishes thorough training in the elementary principles of the science. A type insect is studied intensively, and representatives of other groups are compared with the type. The student thus becomes familiar with the taxonomic structures and terminology for the same, a knowledge of which is essential in all identification work. Instruction is given concerning methods of preserving and pinning insects for collections. Students already interested in some particular insect group, or in some special phase of entomology, will be given assistance in securing and identifying material, will be supplied with special references to literature, and, if they wish, will be put in touch with others working along the same line. The expense for books will be between \$5 and \$10, and, for the hand lens which the student must have, about

\$2.50. A low-powered compound microscope or a dissecting microscope will be helpful but not essential. Prerequisite: desirably a high-school course in biology, but mature students will be able to acquire all the necessary preliminary knowledge from the reading that will be assigned. Mj. DR. BELLAMY.

3. Evolution, Genetics, and Eugenics (5).—This is an introductory course giving a fair and unprejudiced treatment of evolutionary biology. A point especially emphasized is that there is no essential incompatibility between evolution and religion. Evolution is considered as a hypothesis attempting to explain things as they are. It is not a creed or a belief. A selected volume of readings from the best of the classic authors forms the basis of study. No other books are required. Long experience has shown this course to be particularly well adapted to the correspondence method of instruction. It provides an admirable introduction to the study of zoölogy. Mj. PROFESSOR NEWMAN.

4. Genetics and Eugenics.—This course is intended as a sequel to course 3, since it treats fully certain aspects that could only be outlined in that course. Students are directed to the best and most recent literature on the subject available. Among the topics dealt with are: (1) the facts and factors of development; (2) the cellular basis of heredity; (3) the biology of sex and the mechanics of sex determination; (4) the inheritance of acquired characteristics; (5) the most recent developments of Mendelian heredity; (6) heredity of physical and mental traits in man; (7) the principles of eugenics; (8) parenthood and race culture; (9) eugenic programs; (10) eugenic legislation. Mj. PROFESSOR NEWMAN.

5. General Morphology and Natural History of the Invertebrates.

A. Protozoa, Porifera, Coelenterata, Platyhelminthes, Nematelminthes, and Echinodermata (15).—An introduction to the study of invertebrate animals. The work includes laboratory study of the anatomy, physiology, and, as far as possible, of the life-history of typical forms, together with assigned reading. The fundamental principles of comparative morphology are kept in view throughout the course. In addition to the study of the material furnished (about thirteen forms) the student will be expected to acquaint himself with some of the typical invertebrates of his own locality, and directions for the collection and determination of such forms will be given. The securing of the protozoa studied in the course is a part of the laboratory work, and since protozoa must be cultivated in infusions, which require from one to three or four weeks, the student should not delay registration until he is ready to begin work. Instructions for making infusions will be sent with the first lessons. Fee for material and loan of more difficult preparations, \$8.50. Mj.

B. Mollusca, Annelida, and Arthropoda (16).—Continues A and completes the study of the invertebrates, including the most interesting group, the insects. About twelve forms, including some especially prepared, are furnished. Dissection of the clam, snail, squid, earthworm, clam-worm, lobster, spider, grasshopper, and several other insects, and study of habits, physiology, and life-histories of these forms are required. The fee for materials and the loan of the more difficult preparations, including slides illustrating adaptation among insects, is \$8.50. Mj. DR. HYMAN.

6. Vertebrate Zoölogy (17).—An introduction to the study of the vertebrates and their relatives. The laboratory work includes dissection of the dogfish, turtle, and cat, and the study of the skeletons of several animals. Material with circulatory systems injected will be furnished. The work is strictly comparative, i.e., each system of organs is taken up and its progressive change from the lowest to the highest forms is followed. The cost of dissecting instruments and the books will be about \$11.00. Fee for materials, \$12.50. Prerequisite: course 1 or its equivalent. Mj. DR. HYMAN.

7. Vertebrate Embryology (20).—A course indispensable for the teacher of zoölogy and fundamentally important to all who wish to understand the origin and development of the human structure. The study includes (a) laboratory work on the development of the chick and the pig, dissection of pig embryos and of a pregnant pig uterus; (b) assigned readings on the development and struc-

ture of the sexual cells, fertilization, early development of vertebrates in general, and of the chick and mammals, including man, in particular; (c) formation of embryonic membranes; human membranes and placenta, later development of various systems, especially the nervous system, the alimentary canal, the circulatory system, and the urino-genital system. A compound microscope, magnifying 200 diameters, a dissecting microscope (if not obtainable a good hand lens may be substituted), and a few dissecting instruments are required. The deposit for the loan of the necessary slides and for the materials furnished is \$10.00. When the slides are returned this deposit, less \$5.00, will be refunded. Prerequisite: course 1 or its equivalent and "Vertebrate Zoölogy." Mj. DR. HYMAN.

8. Animal Ecology.—Ecology treats of the relations of organisms to their environment. This relation is illustrated by the reactions of the animals to the environmental factors, such as light, temperature, moisture. The reactions, in turn, determine the distribution of the animals. This course will help the student to become acquainted with the great variety of animal forms that he will find existing in his own locality. He will become familiar with the habits of the many species of animals and will learn how, when, and where to find them. At the same time he will be taught how to collect, preserve, and identify the species that he finds; he will receive training in environmental analysis that will enable him to readily classify scientifically any natural environment with which he may come in contact. Assistance by means of written directions and outlines and by suggested and required reading makes up the formal part of the course. The expense for books and apparatus will be about \$10.00. (Informal.) Mj. DR. BELLAMY.

9. Economic Zoölogy.—In this course the student is introduced to the different animal groups from the economic point of view. The collateral reading and formal lessons are planned so as to build upon previous morphological knowledge of animals a knowledge of the importance of each group in the economy of man. Thus the animals that furnish food, that destroy crops, that carry and produce disease, etc., are taken up in turn. The course is arranged so that it may be adapted to the region in which the student lives, and thus he may make a particular study of the economic forms in his own locality. This study will form an illustrative basis for the study of groups in other localities and countries. The methods of study will combine those of ecology, physiology, and general life-history work. Only students who have completed courses in the morphology of the invertebrates and the lower vertebrates will be admitted. The total expense for books and apparatus will be about \$10.00. The materials required will differ in individual cases. Mj. DR. BELLAMY.

10. Graduate Reading in Zoölogy.—This course is planned to serve the function of a seminar course in residence. Selected reading along different lines in zoölogy or general biology will be planned by the instructor, and topics for written theses and criticisms will be assigned. The following seminar courses will serve as a basis of choice: "Problems in Morphology and Phylogeny"; "Problems in Genetics and Experimental Evolution"; "The Biology of Sex"; "Experimental Embryology." If the student has a particular interest in some field not included under these heads, it may be possible to lay out a course of reading with theses. Prerequisite: at least two years of college zoölogy or its equivalent. (Informal.) Mj. or DMj. PROFESSOR NEWMAN.

For other courses for teachers of Science see p. 69.

BOTANY

1. General Morphology of the Algae and Fungi (7).—This course consists of twelve exercises covering the ground of the laboratory work of the twelve weeks' course given at the University. The fifty types studied represent all the main groups of algae and fungi. In connection with a study of the structure, development, and relationships of the various forms, the principal problems considered

are (1) the evolution of the plant body, (2) the origin and evolution of sex, and (3) parasitism, saprophytism, and symbiosis. This is pre-eminently a course for beginners, but it is also adapted to the needs of teachers who, though acquainted with the older style of botany, desire an introduction to the more modern phases of the subject. The material in many of the types is sufficient for a class of eight or ten students. An additional fee of \$2.50 is charged for the material and the loan of preparations. The applicant must have access to a compound microscope with a low- and a high-power objective, the latter preferably a $\frac{1}{8}$ inch or a 4 mm. Mj. PROFESSOR CHAMBERLAIN.

2. General Morphology of the Bryophytes and Pteridophytes (8).—A course similar to the one on algae and fungi and requiring that course or its equivalent as a prerequisite. The structure, life-histories, and relationships of the liverworts, mosses, and ferns are studied in characteristic types. The principal problems considered are (1) the evolution of the sporophyte, (2) the reduction of the gametophyte, (3) heterospory, (4) alternation of generations, and (5) an introduction to modern phases of vascular anatomy. As in course 1, a compound microscope and skilfully stained preparations, involving a knowledge of micro-technique, are needed. Arrangements have been made whereby a limited number may secure the material and a loan of the necessary preparations for \$5.00. No one should register without consulting the instructor. Mj. PROFESSOR CHAMBERLAIN.

3. General Morphology of the Gymnosperms and Angiosperms (9).—A course similar to the two preceding courses and requiring both of them (or their equivalent) as a prerequisite. Aside from a study of the structure and development of typical forms the most important features of this course are a study of vascular anatomy, floral development, spermatogenesis, oögenesis, fertilization, embryology, karyokinesis, and a brief survey of Engler's scheme of classification. A compound microscope is needed, as in courses 1 and 2. No one should register without consulting the instructor. Fee for material and the loan of the more difficult preparations, \$5.00. Mj. PROFESSOR CHAMBERLAIN.

NOTE.—Courses 1, 2, and 3 are designed to give the student a comprehensive view of the structure, development, relationship, and problems of the plant kingdom. These courses form the necessary foundation for all advanced work, whether the advanced work be morphology, physiology, ecology, taxonomy, or pathology. They are required of all who make botany their principal subject for the Bachelor's degree, and are required of all who make botany either the principal or the secondary subject for any higher degree. The development of a clear, bold style of scientific drawing receives attention in all of these courses.

4. Elementary Plant Physiology (2).—This course aims to give the student a general knowledge of the life-processes of higher plants and is introductory to the advanced courses in the subject given in residence. The work will consist of experiments illustrating the different topics, together with assigned reading in a standard textbook. It is adequate to meet the needs of high-school teachers. For the experimental work little more apparatus will be needed than that found in the physical and chemical laboratories of the average high school. A list of required articles will be furnished on application. Reports on both reading and experiments will be called for and will be returned with corrections. Anyone registering should realize that serious difficulties will be encountered unless some facilities for growing plants are at hand. This difficulty can be met by doing the work during the summer months. The student must consult the instructor before registering. Mj. DR. EATON.

5. Elementary Plant Ecology (3).—This course covers essentially the same ground as Coulter's *Plant Relations*, and does not necessarily require previous botanical training, though some work in plant analysis and in the study of plant structures is highly desirable. The object of the course is to present to the student the factors which influence the functions, form, and distribution of the common plants of his neighborhood. At first the different forms of leaves, stems, and roots are studied; then the plant is taken as a whole with respect to the advantages it possesses in the struggle for existence because of a particular

structure—leaf, root, or stem. Under the subject of stems the identification of the common trees is required. The work may be carried on chiefly out of doors, and no microscope is needed. Mj. ASSISTANT PROFESSOR FULLER.

6. Plant Production in the United States (24).—This is chiefly a reading course of general nature dealing with the main physiological, educational, and economic factors influencing plant production in the United States. Several phases of the work involve simple experiments, but these call for little apparatus. Some of the topics considered are (1) a brief history of our knowledge of plant nutrition; (2) soils as influencing plant growth and production; (3) seeds and germination of seeds of economic plants and weeds; (4) water relations of plants; (5) synthesis of foods and their uses in plants; (6) reproduction and fertilization and physiology of budding and grafting. On the educational and economic side a brief history is given of the development of agricultural colleges, experiment stations, and extension work in the United States, especially the impetus given in these lines by national acts (Morrill, Hatch, and Adams acts and the Smith-Lever bill) and by the work of the General Education Board. In addition to the textbooks constant use will be made of various agricultural bulletins and other scientific pamphlets. In case the pamphlets cannot be obtained gratis they can be borrowed from the Correspondence-Study Department for a nominal fee. This course should be attempted only by persons having a fair general knowledge of botany. It is designed to give teachers of elementary agriculture a thorough grasp of the principles underlying their subject. The student should consult the instructor before registering. Mj. DR. EATON.

7. Elementary Forestry.—The principal subjects covered by this course are (1) the identification of trees by the use of keys and other helps; (2) the life-relations of trees, that is, trees as influenced by light, soil, temperature, wind, animals, and by the struggle for existence; (3) the composition and distribution of the forests of the United States; (4) some economic aspects of forestry, namely, the proper care and management of the forests, including plans for improvement cuttings, for reproduction, and for protection from fire. The object of the course is to impart an elementary general knowledge of forestry, including the forestry problem in the United States, and it is offered primarily to teachers in the belief that they can do much to influence public opinion in regard to one of the most important economic problems confronting the country. Textbooks are used, but whenever practicable they are supplemented by field exercises on some limited forested area selected by the student. Mj. ASSISTANT PROFESSOR HOWE.

8. Ecological Plant Anatomy (30).—This course is a continuation of course 5 and commands graduate credit. It involves a careful study of the absorptive, conductive, synthetic, protective, and storage tissues of plants in relation to their functions, with special attention to the variations of structure in so far as they depend upon changes in environment. Students electing this course should have a knowledge of elementary botany and should be familiar with the use of the microscope. The student must have access to a good compound microscope, and if the work is to be done during the winter, access to a greenhouse is very desirable. Fee for materials and loan of slides, \$2.50. Mj. ASSISTANT PROFESSOR FULLER.

9. Field Ecology (36).—This course is designed primarily for those students who have taken residence courses in ecology and who desire to pursue further investigations along this line. The work consists very largely of systematic study in the field. A definite region or plant formation may be made the subject of study, or some problem may be selected in the ecology of plant structure or behavior. In case the work undertaken involves the use of special material and instruments it may be possible to borrow them from the University for a special fee. (Informal.) Mj. PROFESSOR COWLES OR ASSISTANT PROFESSOR FULLER.

10. Elementary Plant Anatomy.—A study of the tissues and tissue systems of vascular plants from the standpoint of phylogeny. This work is very different from the old anatomy in which facts were presented without any attempt to relate them to each other. The course deals with the morphology and evolution

of the vascular system, and is based upon a comparative study of representative juvenile and adult forms of Pteridophytes, Gymnosperms, and Angiosperms. A microscope magnifying about four hundred diameters is necessary. An extensive knowledge of micro-technique is not essential. Directions for preparation of material and making of the necessary mounts will be given in the exercises. Fee for material and loan of slides, \$2.50. Mj. ASSOCIATE PROFESSOR LAND.

11. Methods in Plant Histology (4).—This course deals with the principles and methods of killing, fixing, imbedding, sectioning, staining, and mounting. The student must have access to a compound microscope magnifying at least four hundred diameters, a microtome, and some other apparatus and reagents. A fee of \$2.50 is charged for plant material which is not readily collected at all seasons. No one should register without consulting the instructor. Mj. ASSOCIATE PROFESSOR LAND.

12. General Morphology of Fossil Plants (60).—This course consists of twelve exercises covering the ground of the laboratory and class work of the twelve weeks' course given at the University. The structure of extinct Pteridophytes and Gymnosperms, and their relation to living forms are studied. The student must have access to a compound microscope magnifying from about fifty to two hundred times. The necessary slides and photographs will be loaned for a deposit of \$7.50; this will be refunded when everything is returned intact, less \$2.50 for carrying charges and the loan fee. Prerequisites: courses 2 and 3 or their equivalents. Mj. ASSISTANT PROFESSOR NOÉ.

For other courses for teachers of Science see p. 69.

HYGIENE AND BACTERIOLOGY

HIGH SCHOOL

1. An Introduction to Bacteriology.—This is primarily a culture course designed for those who do not want to go to the expense of setting up a laboratory. It consists of assigned readings and written work on the structure of bacteria, yeasts, and molds, and their relation to agriculture, foods, and infectious diseases. A few simple experiments with yeasts, molds, milk, and foods, that do not call for special apparatus, will be required. [This course commands admission credit only.] Mj. MR. HUDSON.

COLLEGE

2. Bacteriological Methods (1).—The course treats of (1) laboratory methods for the preparation and sterilization of culture media; (2) methods of growing bacteria; (3) methods of staining bacteria; (4) microscopic and cultural studies of pure cultures; (5) the isolation and identification of bacteria from mixed cultures and from the human body; and (6) the bacterial examination of water and milk. In addition to the laboratory work, reports on the methods of studying bacteria and on the morphology and activities of the various types, particularly those concerned with agriculture, food and water supplies, and disease, will be required. The applicant must have access to a compound microscope with a low-power and a high-power objective, desirably with an oil immersion lens. If all the apparatus is purchased it will cost approximately thirty-five dollars exclusive of the microscope, but many of the parts can be extemporized. Course 1 is not a prerequisite. *Mj. MR. HUDSON.

3. Public Hygiene (3).—This is a reading course exclusively. The following subjects are covered: dissemination of disease, preventive measures; hygiene of

* On account of the danger involved in handling bacteriological material and cultures of bacteria without careful supervision, exactly the same kind of work that is required of students in the residence courses cannot be demanded of those at a distance. Consequently the quantity of credit that can be allowed for these courses is variable—depending in large measure upon the quality of the work performed by the student after he has come into residence.

food, water, and milk supplies; housing; ventilation; personal hygiene, etc. Prerequisite: high-school chemistry and physiology, or zoölogy, or equivalent training. M. MR. HUDSON.

4. Applied Bacteriology.—A series of courses designed for those interested in some particular branch of bacteriology, e.g., medical, sanitary, agricultural, etc.

A. *Yeasts, Molds, and Acetic-Acid Bacteria.*—A course designed especially for those wishing to prepare themselves for the practical use of bacteriology in fermentation industries. The general methods of studying this class of micro-organisms are studied and practical work proposed. *Mj.

B. *Water and Water Supply* (11).—This course considers sources of water supply, methods of water purification, and the disposal of sewage. The laboratory work includes (1) the bacterial analyses of water in accordance with the standard methods; (2) experiments on the chemical sterilization of water and sewage, the use of coagulants in purification, and the soap-consuming power of different waters; and (3) the bacterial examination of sewage. *Mj.

C. *Sanitary Aspects of Food Supply* (10).—This course treats of the bacteriology of foods—milk, milk products, eggs, meats—food preservation, adulteration, and particularly of their hygienic aspects. The laboratory work includes (1) practical examinations such as are used in the investigation and control of food supplies, and (2) studies of food micro-organisms. *Mj.

D. *Bacteriological Examination of Soil.*—An elementary course in soil bacteriology, giving the methods now in vogue for investigation of soil conditions. Some knowledge of chemistry is required. *Mj.

MR. HUDSON.

LIBRARY SCIENCE

1. Technical Methods of Library Science.—This is an elementary course designed especially for those who are already in library positions and are unable to leave for resident study. It deals chiefly with cataloguing and classification, but includes a few general lessons dealing with accessioning, shelf-listing, periodicals, loan systems, etc. It is felt that no library training can be complete without personal familiarity with the "tools" of the profession and modern methods of work. Hence it is hoped that students taking this course will find it possible later on to supplement the work thus begun by resident study at some library school. While credit is not given for correspondence courses in any such school, familiarity with library methods will make residence work easier for the student. As preparation for this course two years of college training or its equivalent is required. Practical experience in library work will count much in the applicant's favor. The course consists of twenty-four lessons. Mj. MISS ROBERTSON.

EDUCATION

EDUCATIONAL METHODS

1. Introduction to Education (1).—An elementary course designed to give a general introduction to the study of Education by scientific methods. The course is open to students who have completed a standard four-year high-school course, and also to mature experienced teachers who are not high-school graduates but who desire to advance in their profession by continued study. The aim of the course is to introduce the student to the problems of the school in a direct, concrete way, leading from the somewhat limited view of classroom experiences to the consideration of education in its larger aspects. The content of the course constitutes a general survey of education, covering such topics as: (1) the forms of organization through which the school is administered; (2) the organization

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of the curriculum and its relation to social needs; (3) the classification and progress of pupils, and (4) elements of classroom management and methods. The course is designed to give the student a general view of the whole field as a prelude to later more detailed study of its special divisions. Mj. ASSISTANT PROFESSOR BUSWELL.

2. Introduction to the Scientific Study of Education (2).—This is an introductory course similar in general organization to course 1, but open only to students who have had at least two years of college work. The purpose of the course is, first, to familiarize the student with the field of education through a general survey of its problems; and second, to acquaint the student with the methods and results of the scientific study of educational processes. More extensive reading is required than in course 1. Mj. ASSISTANT PROFESSOR BUSWELL.

3. Methods of Teaching in Elementary Schools (3).—It is the purpose of this course to survey the field of general methods in elementary-school instruction and at the same time to present these methods in such a way as to make them applicable to the individual problems of the teacher of any particular grade. Methods of classroom procedure are examined in the light of psychological principles and the results of the most recent experimental and statistical investigations. The principal topics are: (1) broadening purposes of elementary-school teaching; (2) economy in classroom management; (3) selection and organization of subject-matter; (4) a study of the learning process, with attention to the development and utilization of interest and the motivation of the work; (5) building on the pupils' past experiences; (6) drill; (7) differences in capacity. The discussion of general methods is supplemented by classroom observations and an analysis of the best current practice in the teaching of several elementary-school subjects. The newest literature in the way of monographs, texts on methods, and educational articles is used. By means of supplementary lessons special attention is given to superintendents wishing to perfect themselves in the technique of classroom methods. The course is designed to meet individual needs, as well as to prepare the student in a general way for an elementary-school position. Mj. MR. HARRIS.

4. Methods of Teaching in High Schools (4).—This is a course in general as distinguished from special methods of high-school instruction. It deals, therefore, with methods of teaching common to all high-school subjects or important groups of them. After a few preliminary lessons on the aims of high-school instruction, selection and arrangement of subject-matter, and business management in the classroom, the course continues with a detailed study of important types of learning involved in high-school subjects, such as: acquiring motor control, associating symbols and meanings, forming habits of reflective thinking, developing ability in verbal expression, and acquiring habits of literary enjoyment. Methods of drill are studied in relation to the foregoing types of learning. Among the remaining topics in the course the following are given special attention: individual differences, interests and economy in learning, supervised study, the use of books, laboratory methods, skill in questioning, and the measurement of educational results. Students are required to supplement their study of theory with several high-school observations and the solution of numerous practical problems. Mj. ASSISTANT PROFESSOR BREED.

THE HISTORY OF EDUCATION

5. History of Modern Education.—This course aims to trace in a general way the development of educational institutions in Europe and America since 1500. A brief survey of the schools of mediaeval Europe will be followed by a more detailed study of the social, religious, economic, and political factors that have determined the chief educational movements. Consideration is given to the various types of educational institutions established, their administration, support, curriculum, practices, methods, and ideals. This course is open to two classes of students: (1) those who have completed a four-year high-school

program, (2) those with less formal training than this whose maturity and experience qualify them to engage in the work with profit.

A. *Elementary*.—In harmony with the principles just set forth the following topics will be studied: (1) the types of elementary schools existing in 1500; (2) the influence of commerce, of inventions, of written vernacular literatures, and the Reformation and Counter Reformation upon elementary education; (3) an account of the curriculum and methods which characterized elementary schools in America and Europe prior to 1800; (4) early attempts at reform, e.g., by La Salle and Lancaster; (5) the passing of education from clerical to public support and control in Germany, England, and America; (6) prominent reformers since 1750, notably Rousseau, Pestalozzi, Herbart, and Froebel. This course should appeal especially to superintendents, elementary-school principals, supervisors, and teachers, and should be of interest and value to all students of education. Full credit is given only to Junior College (i.e., first and second-year) students. M.

B. *Secondary*.—This course covers the same period as the preceding, but sets forth the salient points in the development of secondary education. Some of the topics treated are (1) Vittorino de Feltre as typical of the early Renaissance teacher; (2) Strum as exemplifying the teaching of the later Renaissance and the Protestant Reformation; (3) Loyola and the Catholic Counter Reformation; (4) the Latin grammar school in England and America; (5) Comenius and the movement directed toward widening the curriculum and improving the methods of teaching Latin; (6) Milton and the Nonconformist academies; (7) Franklin and the American academy; (8) the movement toward public support and control of secondary education, culminating in the American high school; (9) recent developments in manual training, junior high schools, technical education, etc. Superintendents, high-school principals and high-school teachers should find this course helpful in gaining a clearer conception of the development of education. It may be taken independently of or as supplementary to the preceding course. Full credit is given only to Junior College (i.e., first- and second-year) students. M.

MR. EDWARDS.

6. *History of Modern Elementary Education (10A)*.—This course covers the same general field as 5A, but is designed for more advanced students, i.e., those of third- or fourth-year college grade. Some of the topics studied are: (1) the types of elementary schools developed in the late Middle Ages; (2) the influence of commerce, of the rise of cities, of written vernacular literatures, and of the Reformation and Counter Reformation upon elementary education; (3) early elementary education in America; (4) an account of the curriculum and methods which characterized elementary schools in America and Europe prior to 1800; (5) early attempts at reform, e.g., by La Salle and Lancaster; (6) the rise of scientific inquiry and the development of secular interests; (7) prominent reformers since 1750, notably Rousseau, Pestalozzi, Herbart, and Froebel; (8) the national organization of elementary education in Germany, France, and England in the nineteenth century; (9) the development of free state schools in the United States; (10) new conceptions and tendencies. For superintendents, supervisors, and elementary-school principals and teachers. M. MR. EDWARDS.

7. *History of Modern Secondary Education (10B)*.—This course covers the same general field as 5B, but is designed for more advanced students, i.e., those of third- or fourth-year college grade. Chief stress will be placed upon the changes in secondary schools as a result of social needs and demands. Some of the topics treated are: (1) the Renaissance and humanism in education; (2) the Reformation and its results on secondary schools; (3) the Catholic Counter Reformation and the Jesuits; (4) the Latin grammar school in England and America; (5) development of science and realism in education; (6) the academy in England and America; (7) national organization of secondary education in Germany, France, and England in the nineteenth century; (8) the American high school; (9) new conceptions and tendencies. For superintendents, high-school principals, and teachers. It may be taken independently of or as supplementary to the preceding Minor. M. MR. EDWARDS.

8. Introduction to the History of American Education.—A brief review of European social and educational conditions in the sixteenth and seventeenth centuries, particularly in England and Holland, is made in order to secure a background for the study of American colonial conditions. The following topics are then studied: (1) the transplanting of European educational institutions and practices and their modification to meet colonial needs; (2) comparisons of general social conditions in the several colonies and the resulting contrasts in educational development; (3) the development of a few typical and contrasting state systems; (4) the influence of the development of the factory system and the growth of large cities during the nineteenth century; (5) secondary education; (6) teacher-training; (7) educational extension; (8) higher education; (9) agricultural education; (10) recent movements. This course should appeal not only to all administrators and teachers who desire to secure a preliminary survey of the development of education in America but also to general readers who may feel an interest in the growth of an institution which today involves the expenditure of about one-half billion of dollars annually. The content and method of the course have been influenced by the belief that the greatest service the history of education can perform is to induce executives and teachers to analyze their problems more intelligently in the light of past theories and practices. Actual schools and schoolroom practices will be stressed much more than abstract theory. Mj. MR. EDWARDS.

EDUCATIONAL PSYCHOLOGY AND EXPERIMENTAL EDUCATION

9. Genetic Psychology.—This course deals with the facts and conditions of mental development. It includes the growth of the capacities and instincts of the child due to his increasing maturity, and also those changes which are produced by training and which are commonly called learning. Among the topics treated are: (1) the nervous system and its development; (2) heredity and environment; (3) play, interest, imitation, and independence; (4) speech; (5) social instincts; (6) development of skill and of perceptions; (7) memorizing; (8) problem-solving; (9) transfer of training; (10) mental hygiene. Mj. PROFESSOR ASHLEY.

10. The Psychology of School Subjects.—This course endeavors to apply psychological principles, as determined experimentally either in laboratory or classroom, to the problems which confront one in dealing with the subjects of our curricula. Effort is made to render the course as practical and helpful as possible; hence abstract and theoretical discussions will receive little attention. The actual learning process of the child's mind in gaining a comprehension of the branches of study will be emphasized. The following types of learning will be studied in considerable detail: (1) sensorimotor, (2) perceptual, (3) fixing of associations, (4) abstract thought. In all the work the aim is constantly to utilize psychology in the educational field in much the same way that mathematics is employed in the field of engineering. The instructor's belief is that principles, determined by scientifically controlled experiments, should form the basis of our educational practices.

A. Elementary-School Subjects (5).—The principles of learning are developed in order that they may throw light upon the problems of method involved in teaching, writing, drawing, reading, spelling, history, geography, music, mathematics, and the natural sciences. Attention is given also to the psychology of play, mental hygiene, and individual differences. Emphasis is placed upon analysis of the mental processes which are involved in the study of elementary-school subjects. The course will aid supervisors, principals, and teachers to gain a more intelligent comprehension of the way children learn. M.

B. High-School Subjects (6).—Undertakes a psychological analysis of the various high-school subjects and canvasses the proposals for the reorganization of these subjects and the reasons which have been advanced for such reorganizations. In addition to the psychology of each of the high-school subjects, the course considers the psychology of study, of individual differences, and of gen-

eralized experience. The course is designed for superintendents, principals, and teachers who wish to improve their ability to analyze, interpret, and criticize teaching, and to understand the proposals for the reform and development of high-school curriculum. M.

ASSISTANT PROFESSOR BUSWELL.

11. The Teaching of Industrial Arts (96).—This course is planned for teachers or supervisors of industrial courses. Some time is given to a survey of the field with a view to fixing the point of view and developing the standards of work on the junior and senior high-school levels of instruction. An analysis is made of the teaching process in connection with industrial arts and trade courses. This analysis is made the basis for a discussion of (1) the teaching problems centering around the development of tool technique; (2) the carrying through of problematic work; (3) the organization of work on the productive shop basis; and (4) training for ease and facility in the use of reference material. Attention is given to the matter of standard scales and grading and checking systems. Professional literature on the subject is reviewed and liberal reference is made to that part of experimental psychology and general methods which bears on the problems of industrial arts and trade teaching. While the course is a general one dealing with drawing and shopwork in both junior and senior high schools, there is opportunity for special investigation along a single line to meet the need of those primarily interested in the teaching of a single unit. Mj. ASSISTANT PROFESSOR FILBEY.

12. Statistical Methods as Applied to Educational Problems (72).—This course aims in a threefold way to give the student thorough acquaintance with both theory and practice in the statistical treatment of educational material. (1) It organizes the statistical literature in such a way as to make clear the principal types of technique used in educational research; (2) it gives opportunity for the development of skill in the manipulation of those statistical methods which it is necessary to employ in the administrative and experimental problems in education; (3) it will provide discussions and interpretations of the statistical methods employed in typical scientific studies in education. Data secured from concrete problems of school administration will be used as a basis for practical work in treating statistical measures. For graduate students and undergraduate students who have had teaching and administrative experience. Prerequisite: "College Algebra" unless excused by the instructor. Mj. MR. HOLZINGER.

13. Educational Measurements.—A general survey of the measuring movement in education for the superintendent, supervisor, teacher, or student of educational problems. A study of units and standards in measuring specific educational products. A brief historical perspective of the measuring movement; available tests and scales in the elementary- and high-school subjects; technique of giving, scoring, and tabulation; interpretation of results; determination of standards; use of results in improving instruction, diagnosis, selection, and guidance; scientific methods of experimentation; and a critical discussion of the validity of the tests and the determination of sound principles of design and method of construction. Assignments will include both reading and use of tests. Mj. MR. McCLUSKY.

ADMINISTRATIVE AND SOCIAL ASPECTS OF EDUCATION

14. Educational Administration: Introductory Survey.—A general survey of the field of educational administration, designed to give the student a selected, technical bibliography of the field of school administration, and adequate acquaintance with typical problems of the field, and an introduction to the recent statistical and measuring methods of treating school problems. The larger topics taken up are (1) problems of school organization and administration—present conditions and established principles concerning school boards; (2) financing the public schools; (3) the business management of city schools, school accounting, and school costs, construction, operation, and maintenance of buildings, administration of supply department; (4) problems of the teaching staff—training certification, rating the efficiency of instruction, salary schedules; (5) prob-

lems centering around the pupil—elimination, retardation, and acceleration, grading and classification, promotion systems, methods of grading student work, teachers' marks; (6) brief perspective of the measuring movement in education—standard tests, scales, school surveys; (7) miscellaneous topics—the school census, school records and reports. Mj. MR. McCLUSKY.

15. Elementary-School Administration and Supervision (40).—This course is for principals and supervisors of elementary schools and for superintendents in the smaller cities. It includes a study of these topics (1) the school building and its equipment; (2) time allotments and daily schedules; (3) the nature and scope of elementary-school supervision; (4) standards to be applied; (5) specific supervision problems in the various subjects of instruction; (6) departmental teaching; (7) the progress of pupils through the grades; (8) the fast and the slow child; (9) the use of standardized tests; (10) the use of statistical material; (11) the junior high school; (12) schools for special classes of pupils; (13) school records; (14) standards of efficiency and the grading of teachers; (15) selection of teachers; (16) tenure, salaries, and promotion of teachers; (17) the faculty meeting; (18) the school and the community; (19) meetings of parents and teachers to discuss school questions. The administrative officer ought to gain from this course fuller comprehension of the nature of the problems which his school presents and a knowledge of the means for their solution that are being used successfully elsewhere. The course involves making a study of the student's local school. Mj. MR. GILLET.

16. High-School Administration (36).—This course is planned for high-school principals, for teachers interested in the administrative aspects of the high school, especially those looking toward a principalship, and for superintendents. It deals with: (1) the practical problems of secondary school administration including the junior-high-school and junior-college organizations; (2) the use of grades and statistical studies as tests of efficiency and as instruments for the improvement of instruction; (3) the latest developments in intelligence testing with its application to the proper placement of pupils; (4) the co-ordination of departmental organizations; (5) the making of curricula and programs; (6) faculty organization with particular attention to the faculty meeting; (7) classroom management and the supervision of the teacher's work; (8) discipline; (9) social organization; (10) a detailed survey of the field of supervised study; (11) moral instruction and training. Special attention is paid to office administration, records and control of attendance; sample forms for these aspects of administration being furnished. Supplementary material is included for principals interested in organizing for Smith-Hughes courses. The aim is to relate the course definitely to actual "present-day" conditions in public high schools. Mj. MR. HARRIS.

17. The Junior High School Movement (38).—This course deals with problems in the organization and management of the Junior High School. It begins with general discussions of the need of reorganizing the subject-matter and methods of instruction in the upper grades and of the advantages and disadvantages of the plan. Then follows a brief consideration of the history and extent of the movement. Considerations determining the course of study, together with investigation of leading type programs, are followed by intensive investigation of modifications in English, history and civics, modern languages, mathematics and science, vocational studies and electives. Students are allowed to select parts of the curriculum upon which they wish to concentrate their efforts. Finally, attention is given to problems of social organization, and to administrative problems like promotion by subjects, supervised study, and differentiated assignments, the qualifications of teachers, the choice of textbooks, etc., appropriate to innovating intermediate school procedure. Mj. ASSOCIATE PROFESSOR LYMAN.

18. Principles of Secondary Education.—The course will discuss education as training for social efficiency, the intellectual, social, physical, and moral elements in education; adolescence; the high-school curriculum; the practical arts in secondary education; electives; the downward and the upward extension of the high school; "the many-sided interest"; sending boys and girls to

college. The student will be expected to make a study of schools in his neighborhood and to make reports upon these schools in relation to the general topics studied. Mj. PROFESSOR BUTLER.

19. A Comparative Study of Foreign School Systems (41).—This course will be devoted mainly to a study of the schools in England, France, and Germany. It will trace the historical development of the existing systems of elementary and secondary education as an expression of the religious, social, and industrial ideals that have dominated the people, with especial emphasis upon the influence on public education of ecclesiasticism, humanism, realism, and nationalism. For purposes of comparison special studies will be assigned upon other systems of education in Europe and tendencies toward reorganization of education in the Orient. Mj. PROFESSOR BUTLER.

20. General Principles of Fine and Industrial Arts in Education (56).¹—This course is planned for students of general education who are interested in knowing the place which the fine and industrial arts should occupy in public education, and also for special teachers of art who are interested in discussions of the general principles which underlie art education. It includes a study of such topics as: (1) the present status of drawing and its relation to other school subjects, especially to language, science, and the practical arts; (2) some of the simpler elements of pictorial composition; (3) drawing as the language of the fine arts, and ways of using it so as to develop artistic appreciation; (4) the place of the practical arts in public education and their relation to the traditional school subjects; (5) methods of teaching design as suggested by its historical development and by present social and industrial demands. The discussions deal mainly with the arts in elementary and high schools. This is a course in education and no technical skill on the part of the student is required. Prerequisite: 3 Majors in Education. Mj. PROFESSOR SARGENT.

21. Industrial Education in Public Schools (57).—This course is planned for teachers or supervisors of industrial education, for superintendents and principals, and for others interested in the organization and administration of industrial courses. The first part of the course considers the modern industrial situation, with sufficient attention to historical development to indicate the trend of present-day conditions. The remainder of the course is devoted to a discussion of educational provision on the various levels of instruction to meet this industrial situation. Especial study is made of (1) prevocational work in the junior high school; (2) unit trade courses in the senior high school; and (3) continuation, co-operative, apprentice, evening, and factory schools. The material of the course will be definitely related to practical problems of the community in which the individual student works. Mj. ASSISTANT PROFESSOR FILBEY.

22. Occupational Guidance and Placement (59).—This course is intended for counselors, teachers, administrators, or others in any way interested in the early employment adjustment of boys and girls, young men and young women. It deals with the early vocational guidance movement and with the work of several of the national organizations which have contributed to the general problem of advisement, training, placement, and adjustment of young workers. Attention is called also to attempts at guidance and placement provision which have been made in many communities in such a way as to indicate both strong and weak points in various units of experimental and developmental work. Enough emphasis is given to the collection and use of occupational information to assist students in establishing standards of work and to serve as a background for the interpretation of material already available. Interviewing and group counseling are discussed in an effort to indicate reasonable standards and to call attention to fundamental principles underlying all effective advisement and placement work. It should not be assumed that this is a complete training course either for administrators or counselors but it will give a background for further reading for additional training in service or for advanced courses. It should prove especially

¹ Not given in 1922-23.

helpful to those already engaged in some practical phase of the work or to normal school or college instructors who find it necessary to organize courses in occupational guidance and placement. Mj. ASSISTANT PROFESSOR FILBEY.

METHODS IN DIFFERENT SUBJECTS

KINDERGARTEN-PRIMARY

1. Introduction to Kindergarten-Primary Education (1).—This course is open to those who have completed a standard four-year high-school program, and to experienced teachers and is required of all students entering the kindergarten-primary department of the University. It aims to introduce the student to the concrete problems involved in the kindergarten-primary grades. The course surveys the periods in a child's development with special emphasis on the activities characteristic of the period from four to eight years of age, and includes a study of: (1) the natural responses of the little child and how to utilize them in the school; (2) individual differences in little children and the value of a study of these differences to the teacher of this period of childhood; (3) the social needs of the child; (4) the organization of the program to meet these needs; (5) classroom methods and management; (6) a study of the equipment commonly used in the schools in the light of recent experiments in primary education. Mj. MISS MARTIN.

2. Primary-School Methods: Reading and Language (3).—A course for kindergartners and for teachers and supervisors in the primary grades which discusses the principles and methods involved in the teaching of reading, oral and written composition, spelling and writing in the first three grades. Special attention is given to: (1) the relation of these subjects to the others in the curriculum; (2) the teaching of reading to beginners; (3) the materials and procedure followed in teaching incidental reading; (4) the teaching of phonics; (5) examination of reading texts for the primary grades; (6) the kinds of composition, i. e., individual, group and co-operative; (7) types of these written by the pupils of the University Elementary School; (8) materials and motivation for composition work in the primary grades; (9) the basis for the selection of spelling words; (10) method of teaching spelling; (11) spelling tests; (12) content of the early writing lessons; (13) considerations affecting second- and third-grade writing; (14) the standards for judging hand-writing. Mj. MISS STORM.

HISTORY AND OTHER SOCIAL SUBJECTS

3. Community Life, History, and Civics in the Primary Grades (4).—This course is for teachers and supervisors in the kindergarten and primary grades. It aims: (1) to show the principles upon which subject-matter should be selected for the children of the lower grades; (2) to assist the teacher in outlining a course of study; (3) to give practical help in the method of presenting the topics to children; (4) to show the relation which the community life bears to other phases of the program, as reading, language, literature, number, etc. The following topics are included: the home, farm life, Indian life, shepherd life, colonial history, social history, and civics. Mj. MISS STORM.

4. The Teaching of History in the Upper Elementary Grades and the Junior High School (11A and 11B).—This course deals with both the technique of teaching history in these grades and the organization of material for teaching purposes. General and special methods of procedure, the history recitation, teaching pupils to study history and the use of the textbook receive special attention. Emphasis is also placed on selecting, organizing, and standardizing historical material adapted to these grades: for example, the maps to make, reference books to use, dates and historical personages to know, and the maps, the charts, and the illustrative material to buy. Mj. ASSOCIATE PROFESSOR TRYON.

5. The Teaching of History in the Secondary School (12).—This course will consider the high-school history recitation, teaching pupils to study history,

the topical, the textbook, the source, and the problem methods, collateral reading problems, course and lesson planning, teaching current events in connection with history, and notebook and written work. It will be of interest to actual and prospective teachers of history in secondary schools. **Mj. ASSOCIATE PROFESSOR TRYON.**

6. The Teaching of the New Civics, Community Life, and Current Problems in Elementary and High Schools (30).—This course deals with the content, organization, and use of material from the fields of civics, economics, sociology, and political science for teaching purposes in elementary and high schools. Some attention is given to the present trend of and recent progress in teaching the social subjects, to typical courses in operation in various parts of the country, to library and laboratory equipment, and to special methods of procedure. Certain selected topics are treated in detail as examples of method. The utilization of social-science material for instruction in oral and written English is discussed and illustrated. Special effort is made to present the subject so as to enable teachers to adapt the work to the needs of the class room. **Mj. MR. HILL.**

HOME ECONOMICS

7. Costume Design.—This course is planned for junior and senior high-school work. It establishes standards for judging and presenting the principles underlying drawing, structural design, and color in their direct and corrective application to costume. It discusses historic types, present day fashions, and the needs of the individual. The technical work includes sufficient practice in drawing for the expression of ideas. **Mj. MISS CLARK AND MISS WHITTIER.**

8. Household Design.—This course presents the principles underlying the use of color and of structural and decorative design, and calls for sufficient illustration to insure a clear understanding of the basis for judgment. It discusses practical and aesthetic values regarding the home, exterior and interior, and, in a general way, civic environment and historic types. Teachers interested in upper-grade and high-school drawing should consider the possibilities for broader interpretation and application to life-needs in the subject of Household Design. The technical work includes sufficient practice in drawing and construction to enable the student to record ideas. **Mj. MISS CLARK AND MISS WHITTIER.**

LATIN

Training Course for Teachers of Latin.—(Cf. description under Latin 23.)

FRENCH

Problems of Teaching French.—(Cf. description under French 10.)

ENGLISH

English Grammar for Teachers.—(Cf. description under English 35.)

9. The Teaching of English in Elementary Schools (14 and 16 condensed).—Considers primarily tendencies in the reorganization of subject-matter and of methods of teaching both oral and written composition including spelling and grammar, together with reading and literature for grades 4 to 8 inclusive. A survey course, attempting to correlate activities in all of the various phases of English work for upper-grade teachers. **Mj. ASSOCIATE PROFESSOR LYMAN.**

10. English in the Junior High School (13).—This course endeavors to give a comprehensive view of problems associated with the conduct of English in the junior high school. Special consideration of the curriculum suitable for grades 7, 8, and 9. Various topics are: (1) organization of English in leading schools; (2) reforms in teaching grammar; (3) minimum essentials securing co-ordination; (4) content reading; (5) graded classes; (6) special classes; (7) vocational guidance through English; (8) socialization of English classes. **Mj. ASSOCIATE PROFESSOR LYMAN.**

11. The Teaching of English Composition in Secondary Schools (7).—Deals with the general problems of composition in the high school looking toward the establishment of laboratory methods in the place of "recitation." Among the

topics considered are the following: aims, organization, criticism of themes, standardization, assignments, etc. The student is put in touch with the best books on teaching English, and is enabled to use his own classroom as a laboratory for the exercises and experiments required. The course is designed to co-ordinate closely with the daily duties of a person engaged in teaching. Prerequisite: 2 Majors in composition or the equivalent. Mj. ASSOCIATE PROFESSOR LYMAN.

12. The Teaching of English Literature in Secondary Schools (80).—A survey course considering such topics as the reform movement, the modern point of view, the organization of the course of study, the basis of method, the teacher's preparation, etc. Adapted, as is course 10, to the activities of the student's own classroom. This course does not review the literature usually taught in the high school; it considers such material only as an approach to various methods of instruction. Prerequisite: 2 Majors in literature or the equivalent. Mj. ASSOCIATE PROFESSOR LYMAN.

MATHEMATICS

GROUP I. The following group of courses is for teachers, actual or intending, who desire to raise their efficiency in conducting *standard* courses in the public elementary and high schools.

13. The Teaching of Arithmetic.—The following topics are studied in this course: (1) the findings of scientific studies in arithmetic; (2) methods in arithmetic and their history; (3) the teaching of primary arithmetic; (4) the fundamentals for whole numbers and fractions; (5) percentage and interest and their application and mensuration. Some work will be given in the study of occupations. Speed, accuracy, drill, and problem-work are studied from the teaching standpoint. The course presupposes a fair knowledge of subject-matter. Mj. PROFESSOR MYERS.

14. The Teaching of Secondary Mathematics.—This course covers the general theory of the teaching of the conventional secondary branches. Subject-matter is treated only in so far as needed to exhibit method, organization, and modern tendencies.

A. Algebra (eMath. 2A).—Deals with the aims, values, matter, methods, and results of algebra teaching. It considers present tendencies, principles of correlation, criteria for selecting subject-matter and textbooks; also with supervised study, standards of attainment, the recognition of individual differences, with study helps for pupils, etc. It gives some attention to the problem of judging teaching. Mj.

B. Geometry (eMath. 2B).—Treats the educational aims and values of geometry teaching, the problems of choosing matter and methods, and deals with the original exercise as an agency for developing both reproductive and productive ability. Attention is also given to the questions of teaching how to study and how to employ applied problems in geometry. Mj.

PROFESSOR MYERS.

15. The Teaching of College Algebra, Trigonometry, and Analytics.—A good academic knowledge of these subjects is required for admission to this course. The following topical enumeration will suggest the nature of the questions considered: (1) the purpose of college algebra, trigonometry, and analytics in the curriculum of the college: (a) viewed from the teacher's standpoint, (b) viewed from the student's standpoint; (2) method of teaching these subjects as determined by this purpose; (3) the correlation idea as applied to Freshman college mathematics; (4) the laboratory method in Freshman college mathematics; (5) use of graphical work early and all along; (6) applications of these subjects in teaching them; (7) dangers of this teaching becoming too abstract; (8) order and sequence of special topics. Any recent text in each of these subjects will answer. Mj. PROFESSOR MYERS.

16. Teachers' Course in the History of Mathematics.—This course is designed specifically for teachers in elementary and high schools. It views history primarily as a source of method and teaching technique. It emphasizes

the bearings of historical development upon matter and methods of teaching and upon types of organization, and points out profitable aims and values for mathematical study. The general history is surveyed rapidly down to modern times, which may be taken as the date of the introduction of printing (1450 A.D.). Then is given in turn a synoptic history of arithmetic, of elementary algebra, and of elementary geometry. The attempt is to give an appreciation of the factors and agencies that have significantly affected the evolution of mathematics as an educational instrument. Some consideration is given to ways of employing historical knowledge in teaching. Mj. PROFESSOR MYERS.

GROUP II. This group of courses is for actual and intending teachers in situations in which conditions are flexible and admit of following more nearly ideal plans and of using more psychologically justifiable matter and methodology than *standard* courses of study in public schools presuppose or admit.

17. The Teaching of Elementary-School Mathematics (1).—This course is based on a good knowledge of the subject-matter of arithmetic, and some acquaintance with algebra and geometry. It includes a critical study of (1) the content, (2) the organization, and (3) the methods of presenting mathematics to grade pupils. The curriculum is critically studied from grade to grade, with a view to determining the best type of work for the modern elementary public school. Some attention is given also to testing the results of arithmetic teaching. Mj. PROFESSOR MYERS.

8. The Supervision of Arithmetic (3).—The course deals with the theory and practice of supervision of standard arithmetic work in seven- and eight-grade public elementary schools. Sample topics of study are: (1) the grade distribution of arithmetical topics; (2) time allotment; (3) dominance of methods; (4) sequence in teaching the tables; (5) oral work; (6) drill; (7) problem-work; (8) judging texts; (9) socializing arithmetic; (10) program-making, etc. The course is designed for general supervisors, normal-school supervisors, principals, and superintendents. Mj. PROFESSOR MYERS.

19. Mathematics for the Junior High School (eMath. 2B).—This course is designed to aid in preparing teachers for the type of service called for in mathematics in the new administrative unit known as the Junior High School. It outlines the principles and purposes that underlie the Junior High School movement, so far as they relate to mathematics, indicates the type of teaching needed, gives some aid in acquiring the type, and formulates a course of study appropriate to the new demands. It also includes a survey of such textual material as is available at present. Mj. PROFESSOR MYERS.

20. Teachers' Course in Unified Mathematics.—A treatment of the essentials of mathematics usually taught in the first two years of the high school extended to include a full four-year high-school program in mathematics. The subjects, algebra and geometry, are related to each other and to other topics not usually treated in the first two years. Thus trigonometry is introduced in the second year leading to the solution of the right triangle and simple trigonometric equations. The course serves as a review from the point of view of the teacher, it suggests methods of presenting the subject-matter to high-school classes, and brings the teacher into close touch with modern ideas and methods. It presents the work under the aspect of unified mathematics.

A.—Comprises the work of the first high-school year in general or unified mathematics. Central emphasis is here upon algebra, with related arithmetic and geometry. The subject-matter considered is equivalent to that for a knowledge of which the first unit of entrance credit is given. Mj.

B.—Reorganizes the work of the second high-school year into the form of general or unified mathematics. Central emphasis is here upon geometry. Considerable algebra and trigonometry are associated with the central theme. The subject-matter considered is equivalent to that for a knowledge of which the second unit of entrance credit is given. Mj.

C.—Carries forward the plan in A and B and covers the work of the third and fourth years. It continues and completes a four-year high-school course in general or unified mathematics. Mj. PROFESSOR MYERS.

21. Psychology of Arithmetic.—This course requires a good knowledge of arithmetic and some power of abstract thought. The nature, measurement and constitution of arithmetical abilities are studied, the psychology of drill, of arithmetical thinking and the conditions of interest and learning are carefully examined. Aspects of the problem of individual differences are scrutinized and the meaning of a psychological treatment of arithmetic with children of elementary schools is exemplified and justified. Mj. PROFESSOR MYERS.

22. History of Mathematics (5).—This course is intended to put the student in possession of a knowledge of the most fruitful epochs and of the most salient influences of mathematical history; to make him more keenly appreciative of the fact that his science is and always has been a growing science, to inform him that the attitude of mind exhibited by the works of the great mathematicians is most conducive to progress today—in short, to assist the mathematical student to identify himself more intelligently with those men and movements which are making for mathematical advance at the present time. Mj. PROFESSOR MYERS.

NATURAL SCIENCE

23. Elementary Science: Plant and Animal Life (1).—In practically all the recent surveys the reports emphatically recommend the introduction of more extensive and better organized work in science; especially is there increasing demand for the adequate presentation of the practical phases of elementary science in the grades. Science teaching to be effective must begin with a first-hand knowledge of out-of-door things. The teacher accustomed to use books as her chief means of instruction is at a loss to know how to proceed in this new type of work. This course aims to give her detailed directions as to materials and methods to be used, and to impart the proper attitude of mind so essential to successful work in science in the grades. Detailed instructions are given for the study of common trees, flowering plants, seeds and seedlings, some spore-bearers; the familiar birds, insects, animals of pond and stream, and some of the animal companions of man. Much of the work required consists of out-door studies of plants and animals. Only persons willing to put in considerable time in field work can complete this course. These studies are outlined so that the directions given will serve for grade pupils, with a minimum of alteration. Readings are assigned covering a discussion of aims and methods, of the simple life-processes of animals and plants, their habits, structures, and the relations of common living things to man. Mj. MR. FRANK.

24. The Teaching of General-Science Courses (10).—This course is planned for teachers of ninth-grade general science and of Junior High School science. Detailed study of the following phases of the subject is made: (1) the conditions in secondary science which led to the introduction of general-science courses; (2) arguments for and against general science; (3) aims in general-science courses and their relation to the present-day aims of education; (4) selection and organization of units of instruction and of a course of study; (5) analysis of present textbooks and outlined courses; (6) sequence of courses in secondary science; (7) methods of instruction; (8) laboratory equipment, illustrative material, and supplementary reading material; (9) written work in general science and methods of grading; (10) the formulation, use and value of tests for measuring results of instruction in general science. Mj. MR. PIEPER.

DRAWING AND PAINTING

NOTE.—The courses below, except "Elementary Drawing and Painting" and "Elementary Design," are considered technical courses. A technical course commands college credit only when accompanied or supplemented by two theoretical courses that form with it a consistent group.

25. Elementary Drawing and Painting (6).—All teachers would like to be able to draw. Most teachers in the elementary schools are expected to teach draw-

ing. This course aims to present the subject of drawing and painting in such a way that at its completion the student will understand how to teach drawing to children and will also have some dexterity in the art. The degree of skill attained in both will depend somewhat upon natural ability and previous training, but neither is demanded by this course. The course discusses the place of drawing in the elementary schools, its relation to other subjects, suitable problems for the various grades, and methods of presentation. Mj. MISS WHITTIER.

26. Elementary Design (20).—All teachers want to know "How" and "When" to present a subject. All students desire to know "Why" a subject is presented. This course aims to answer the "How," "When," and "Why" of teaching design in the elementary schools. It is planned to meet the needs of kindergarteners, grade teachers, art teachers, and all who wish a good working foundation in design. It discusses suitable problems and presents methods of teaching design to children in the elementary schools. It is not primarily a technical course, and previous knowledge of the subject is not essential. The number of lessons in each group will vary according to the student's expressed needs; that is, the emphasis may be upon methods of teaching, technique, or the history of design. Mj. MISS WHITTIER.

27. Illustration.¹—A course planned for kindergartners and primary teachers. It includes a study of the following topics: (1) illustrations in children's books; (2) illustrations for familiar stories; (3) pictorial composition. Mj. MISS WHITTIER.

28. Structural Design.¹—A course planned to meet the needs of all interested in the following subjects: cardboard and paper construction; wood-work; metal-work; claywork; textiles. The emphasis is upon the structural side, but a minimum amount of decorative design is discussed. Prerequisite: course 25 or its equivalent. Mj. MISS WHITTIER.

An introductory course, **Freehand Drawing**, and three series of courses, **A. Mechanical Drawing**, **B. Architectural Drawing**, **C. Descriptive Geometry**, afford opportunity to begin the study of drawing and to continue it to a point where knowledge of higher mathematics—e.g., calculus, mechanics, etc.—conditions further progress. "Freehand Drawing" with any one of the series offers what is usually done in the first two years in the best technological schools. While open to anyone they will appeal especially to those who wish thorough training in the fundamentals of the science, whether for immediate practical purposes in the office, shop, or classroom, or as a preparation for Mechanical, Electrical, and Civil Engineering, or for Architectural Drawing.

One may take any Major in any one of the three series for which he is prepared, though in most cases it will be found advisable, if not necessary, to begin with the first Major. Admission to any Major except the first one of a series is conditioned upon the approval of the instructor, who will base his decision upon a statement and exhibit of previous work. The University reserves the right to retain one drawing from the student's set in each Major and to determine whether admission or college credit shall be allowed.

The materials required in any Major will be sent, express collect, upon receipt of the amount specified, which is the lowest that can be quoted for a good quality. The weight of the materials and the price of the textbook will enable the student to determine the approximate cost of each Major.

Material required in "Freehand Drawing."—Six sheets of Whatman's cold-pressed paper, 22×30 inches; 8 sheets of chalk-talk paper, 14×20 inches; 3 Koh-i-noor pencils, 3H; 1 pencil-eraser, No. 211; 1 dozen thumb tacks, steel-stamped $\frac{3}{8}$ inch diameter; 1 box of French charcoal; 1 bottle of fixatif, two-ounce; 1 tin atomizer; 1 box "Star" chalks, six assorted colors; 1 drawing-board, 18×24 inches; and models of different solids.

Material required in courses A1, 2, 3, 4, 5; B2, 3, 4, 5; and C1, 2, 3, 4.—One drawing-board, 18×24 inches; 1 set drawing instruments in folding pocket-book-

¹ For credit value see note on page 69.

style case; 1 T-square, mahogany, ebony-lined fixed head, 24 inches; 1 amber triangle, 45°, 8 inches; 1 amber triangle, 30°×60°, 10 inches; 1 triangular boxwood rule, architect's, 12 inches; 1 flat boxwood scale, 6 inches, divided $\frac{1}{8}$ and $\frac{1}{16}$; 1 French amber curve, No. 1; 1 dozen sheets of Whatman's hot-pressed paper, 22×30 inches, 6 Koh-i-noor pencils, assorted, 3H and 6H; 1 bottle each of Higgins' carmine, black, and blue ink; 1 dozen thumb tacks, steel-stamped, $\frac{3}{8}$ inch diameter; 1 Faber's pencil-eraser, No. 211; 1 Faber's ink-eraser, No. 2604; 1 Hardtmuth's soft pliable rubber, No. 12; 1 file, 4 inches; 1 penholder; 3 ball-pointed pens.

29. Freehand Drawing.¹—A course preparatory to each of the series described below except the second, in which it is required. It gives that thorough training of the eye and hand which is so necessary in all work requiring accuracy in observation and measurement. While this is primarily its purpose, the course offers the work required in most of the public schools of the country preparatory to teaching Freehand Drawing. Although it does not deal with the pedagogy of the subject it provides a practical and pedagogically correct working basis in this subject, and can be recommended, therefore, to all grade teachers and to others who are expected to teach Freehand Drawing in connection with their special work. The course embraces the following divisions: (a) *Freehand Projection*—to familiarize the student with the various views of an object and their proper arrangement upon the sheet, by which all the facts of size, form, and proportion are shown, together with perspective sketches of the object, 6 drawings; (b) *Model Drawing of Type-Forms*—outline sketching, in perspective, of the cube, cylinder, and other geometrical solids, introducing the principle of perspective as applied to small objects, 6 drawings; (c) *Model Drawing, Groups*—outline drawings of solids and other objects to teach composition and perspective, 6 drawings; (d) *Light and Shade*—pencil studies of the type solids and original groups of objects, to give practice in obtaining quick effects in black and white, 6 drawings; (e) *Color Work*—color studies with chalks, to teach an appreciation of surface, texture, and the proper juxtaposition of colors as applied to groups of objects, 6 drawings; (f) *Pen-and-Ink Studies* of single objects and original groups, involving outline, light and shade, texture, surface, etc., 6 drawings; in all, 36 drawings. No textbook is required. Cost of materials ready for shipment, \$5.00 subject to advance in price; weight of package, 18 pounds. Mj. MR. FERSON.

30. A—Mechanical Drawing.¹

1. *Projective Geometry.*²—(a) Preparatory work: this includes the use of instruments, laying out, penciling, inking-in, lettering, with practice work to learn accuracy of measurement and of line, 3 drawings. (b) Graphic geometry: this is intended to give the student a mastery of the various geometrical constructions which form the basis of all work in projection, descriptive geometry, and constructive drawing, whether mechanical or architectural, and at the same time to give facility in the use of the instruments, 6 drawings. (c) Projection: this will include the projection of points, lines, planes, and solids, 6 drawings; in all, 15 drawings. Textbook: Linus Faunce's *Mechanical Drawing*, \$1.75 net. Cost of materials ready for shipment, \$25.00 subject to advance in price: weight of package, 18 pounds. Mj. MR. FERSON.

2. *Constructive Drawing.*²—(a) Intersections, including conic sections, oblique sections, intersections, and developments, 6 drawings. (b) Shadows: the first angle projection of shadows, 3 drawings. (c) Isometric projections with projections of shadow, 3 drawings. (d) Oblique or cabinet projection, 3 drawings; in all, 15 drawings. Textbook and equipment for this course same as for A1. Prerequisite: course A1. Mj. MR. FERSON.

3. *Machine Details.*—This course is intended to familiarize the student with the various parts of machines that have come to be recognized as standards and

¹ For credit value see note on page 69.

² These two majors together are equal to Drawing 30.

which are used in the construction of new machines. Standard sections for materials, fastenings, couplings, bearings, engine details, etc., 10 drawings. Textbook: Low and Bevis' *Manual of Machine Drawing and Design*, \$3.50 net. The equipment for A1 will suffice for this course also. Prerequisite: course A2. Mj. MR. FERSON.

4. *Gear Construction*.—Spur-gears, bevel, spiral, worm, elliptic, involute and cycloid teeth, hubs, arms, rims, etc., 10 drawings. Textbook: George B. Grant's *Teeth of Gears*, \$1.10 net; equipment, same as for A1. Prerequisite: course A3. Mj. MR. FERSON.

5. *Shop Drawing*.—(a) Freehand sketches with measurements of some piece of machinery; front view, side view, and 2 sheets of details; 4 drawings; (b) mechanical drawings from the above; 4 drawings; (c) tracings from the mechanical drawings; 4 sheets; (d) a freehand perspective sketch, in pen and ink, of the machine used; in all, 13 drawings. No textbook is required. Equipment is the same as for A1. Prerequisite: course A4. Mj. MR. FERSON.

31. B—Architectural Drawing.¹—This series gives the student a good working knowledge of the essentials in architecture; history, the orders, the principles of the designing of dwelling-houses, office work in rendering, perspective, and detailing, together with tracing and blueprinting. As the success of the student in architecture is so completely dependent upon his knowledge of and practice in all the departments of freehand drawing and sketching, it is absolutely essential that the introductory Major, "Freehand Drawing," should be taken first, so it is made the first Major of the series.

1. *Freehand Drawing*.—Mj. MR. FERSON.

2. *Projective Geometry*.—Same as A1. Mj. MR. FERSON.

3. *Constructive Drawing*.—Same as A2. Mj. MR. FERSON.

4. *Architectural Details*.—(a) "The Orders," 10 drawings; (b) details of architectural construction from measurements, 2 drawings; in all, 12 drawings. Textbooks: Hamlin's *Architectural History*, \$2.25 net, and Ware's *American Vignola*, Part I, "The Orders," \$2.50 net. Equipment for this course same as for A1. Prerequisite: course B3. Mj. MR. FERSON.

5. *Architectural Design*.—(a) Domestic plans, from copy, 6 drawings; (b) design of some small building, 5 drawings; (c) tracings and blueprints, 5 tracings with their prints; in all, 16 drawings. No textbook is required. Equipment, same as for A1. Prerequisite: course B4. Mj. MR. FERSON.

32. C—Descriptive Geometry.¹—This series is for those who wish to go into the higher mathematics, but have had no training in the graphic side of the subject. It consists of:

1. *Projective Geometry*.—Same as A1. Mj. MR. FERSON.

2. *Constructive Drawing*.—Same as A2. Mj. MR. FERSON.

3. *Theoretical Graphics*.—Problems in points, lines, planes, and straight-surfaced solids; 15 drawings. Textbook, Church and Bartlett's *Descriptive Geometry*, \$2.25 net; equipment, same as for A1. Mj. MR. FERSON.

4. *Practical Graphics*.—Curved and warped surfaces, shades and shadows, developments; 15 drawings. Textbook, same as for C3; equipment, same as for A1. Mj. MR. FERSON.

COMPARATIVE RELIGION

1. An Outline History of Religions (7).—The aim is to lead the student to acquire an appreciation of the function of religion in the development of the life of the race. The course will include a treatment of method in the study of religions; the nature of religion in primitive groups and the rise of religious ideas and forms; a survey sketch of the development of religion in China, Japan, Babylonia-Assyria, Israel, and Judaism: the religions of the Indo-Europeans—India, Iran, Greece, and Rome. While problems for research will be pointed out

¹ For credit value see note on page 69.

and difficulties noted the main purpose will be maintained—to secure a general knowledge of what religion has meant in the lives of the various sections of the human race in the past and what it means under the changed conditions of our modern world. Mj ASSISTANT PROFESSOR HAYDON.

OLD TESTAMENT LITERATURE AND INTERPRETATION AND ORIENTAL LANGUAGES AND LITERATURES

ELEMENTARY

1. The Origin and Religious Teaching of the Old Testament Books.
2. Messages of the Prophets.

[NOTE.—The foregoing two elementary courses command no credit and do not require matriculation. Registration for them must be made with the Secretary of the American Institute of Sacred Literature of the University of Chicago who will send full information on request.]

COLLEGE

3. An Introduction to the Old Testament.—This course aims to give both a general introduction to the Old Testament and a special view of the several books which make up its contents. It describes succinctly: (1) the historical background of the Old Testament books; (2) how the old records were written, compiled, and edited; (3) how they have been transmitted to us; (4) the present literary character of each book, (5) its most prominent teachings; and (6) workable methods of solving its problems. Assignments are made for reading the best available literature on each theme. The lessons are planned on a practical basis and aim to give students a reasonably full idea of the new and real advances that have been made in the last few decades in understanding the Old Testament as an ancient and uniquely valuable book. Mj. PROFESSOR PRICE.

4. Elementary Russian.

A (301).—After a general study of the declensions and conjugations, texts supplied with extensive notes will be taken up and mastered. Mj.

B. (302).—Continues the study of texts with review of inflectional forms. The vocabulary will be enlarged by the study of roots and suffixes; elementary composition; extensive syntax study. Mj.

ASSOCIATE PROFESSOR HARPER.

ADVANCED

5. Outline of Hebrew History.—This course condenses the treatment of Old Testament *history* given in courses 20, 21, and 22 in residence. It provides a survey of the history of the Hebrew people as presented in the Old Testament from the period of the conquest and establishment in Canaan to the Maccabean struggle and the close of Old Testament history. The course embraces a preliminary sketch of the patriarchal period, with a more detailed study of the conquest, the period of the Judges, the united and divided kingdoms, the exile, the revival of Judah, and the beginnings of Judaism. The bearings of prophetic activity upon the history and literature also receive consideration. Mj. MR. HENRY.

6. Historical Development of Old Testament Literature.—This course condenses the treatment accorded Old Testament *literature* in courses 20, 21, and 22 in residence. It begins with a very brief survey of the origins of the Hebrew people and their cultural heritage from the past, then takes up the existing Old Testament literature in the order of its production and studies each portion as to (1) the historical circumstances of its origin, (2) its relation to similar literary productions of related peoples, (3) its authorship, (4) its literary form, and (5) its purpose. The course involves the careful reading of the Babylonian creation and flood stories, the Hammurabi Code of Laws and all the more important contemporary literary products, and aims to make the student conversant

with the constructive results of the most recent historical research. Although this course has no technical prerequisites, a knowledge of Hebrew history as outlined in course 5 will be helpful. **Mj. MR. HENRY.**

7. Old Testament Prophecy.—The purpose of this course is to aid in securing a better understanding of the rise and development of prophecy in Israel. Some of the more important matters to be considered are (1) the controlling ideas in the teaching of each of the great prophets; (2) the relation of the prophet and his work to the political and social movements of his day; (3) the attitude of the prophet toward the priest and priestly institutions; (4) the place of prophecy in the preparation for the work of Christ. **Mj. MR. HENRY.**

8. Old Testament Worship.—A study of the element of worship and the institutions and literature connected with worship in the Old Testament. Special consideration will be given to such topics as (1) the priest; (2) place of worship; (3) sacrifice; (4) feasts; (5) tithes; (6) clean and unclean, etc.; (7) the origin and character of the Sabbath; (8) the date and character of Deuteronomy; (9) the origin of the Levitical legislation; (10) the composition of the Hexateuch. Attention will be given to the characteristic ideas of the priest as distinguished from those of the prophet and to the growth of priestly influence in Israel's religious life. **Mj. MR. HENRY.**

9. Elementary Hebrew (70).—Includes the mastery of the Hebrew of Genesis, chaps. 1-3; the study of the most important principles of the language in connection with these chapters; Hebrew grammar, including the strong verb and weak verbs; some practice in the translation of English into Hebrew. The lessons have been re-written to conform to the newly revised edition of the Harper textbooks and will enable earlier students in this course to familiarize themselves with the latest developments in this field. **Mj. MR. HENRY.**

10. Intermediate Hebrew (71).—Continues the foregoing course and prepares the student to undertake the reading of the historical prose books of the Old Testament. **Mj. MR. HENRY.**

11. Historical Hebrew (72).—A sequent to "Intermediate Hebrew." Critical translation of easier prose sections of I Samuel, Ruth, and Jonah with the elements of Hebrew syntax. Completion of this course will enable the student to begin reading the prophetic literature. **Mj. MR. HENRY.**

12. Elementary Arabic.

A (200).—Lessons based on Thatcher's *Arabic Grammar* (in French by Armez, in German by Harder) and inductive study of a simplified form of the "Tale of King Shahryar and His Brother" (the opening tale of the *Arabian Nights*) will present to the student the alphabet, the elements of orthography, the inflection of pronouns, nouns, and adjectives, common prepositions and adverbs, the strong verb, and the fundamentals of syntax. **Mj.**

B (201).—Continues A, the "Tale of the Ox and the Ass" (the second tale of the *Arabian Nights*) and easy fables and anecdotes. The weak verb, numerals, adverbs, and particles are studied, and the elements of syntax are presented with the exercises. **Mj.**

C (202-212).—The student has the choice of six selections for more rapid reading from (1) Ibn Khallikān's *Biographical Dictionary*; (2) Ath-Tha 'labī's *Stories of the Prophets*; (3) the prose sections, chiefly biographical, of the *Kitāb al-Aghānī*; (4) historical works of Ibn Athīr, Abulfeda, Ibn Qutaiba, at-Tiqtaqa, at-Tabarī, etc.; (5) modern tales, novels, etc.; (6) the Bible in Arabic. These selections will be read from *Chrestomathies* or handbooks, which may be procured by the student. The grammar by Wright (3d ed.) and a hand lexicon, in the order of preference either Hava's (Arabic-English), or Belot's (Arabic-French), or Steingass' (Arabic-English), or Wortabet's (Arabic-English), or Wahrmond's (Arabic-German), should be in the hands of the student. Readings from Nicholson's *Literary History of the Arabs*, or Huart's *Arabic Literature*, or both, will be assigned in connection with the texts studied. MacDonald's *Muslim Theology, Jurisprudence, and Constitutional Theory* should be read in its entirety in con-

nection with this course, as it will lay the foundation for the understanding of technical terminology of various kinds and historical and other references. Mj. ASSISTANT PROFESSOR SPRENGLING.

13. Advanced Arabic.—Instruction will be adapted to (1) the practical needs of consular and other government officials, mercantile and professional pursuits, or missionary labors, or (2) those having philological, literary, scientific, historical, or artistic work in view. The student must consult the instructor before registering. Mj. ASSISTANT PROFESSOR SPRENGLING.

14. Literature and History of the Arabs.—Courses for students not conversant with the Arabic language are in preparation. Inquiries concerning work of this nature may be addressed to the instructor. ASSISTANT PROFESSOR SPRENGLING.

15. Elementary Assyrian (170, first half).—The cuneiform text as well as the transliteration is used from the beginning. The student learns the most common cuneiform signs, the strong verb and all classes of weak verbs, and the fundamental principles of the language. A knowledge of Hebrew is prerequisite. M. PROFESSOR BERRY.

16. Intermediate Assyrian (170, second half).—This includes the reading of several hundred lines of historical cuneiform text, with special attention to vocabulary, a further study of Assyrian grammar, including syntax, and the learning of most of the remaining cuneiform signs that are in frequent use. M. PROFESSOR BERRY.

17. Elementary Egyptian (250).—A beginning course based on a study of (1) the tale of the Shipwrecked Sailor (as transliterated from the hieratic), and (2) the autobiography of the nobleman Amen. The commonest signs will be mastered along with the grammatical usages of the classic period. Mj. DR. ALLEN.

Members of these Departments will endeavor to arrange informal courses for students who are prepared to do work of an advanced nature, whenever practicable.

NOTE.—Related courses are offered in History and General Literature.

NEW TESTAMENT AND EARLY CHRISTIAN LITERATURE

ELEMENTARY

1. Origin and Religious Teaching of the New Testament Books.
2. Jesus of Nazareth.
3. The Message of Jesus to Our Modern Life.

[NOTE.—The foregoing three elementary courses command no credit and do not require matriculation. Registration for them must be made with the Secretary of the American Institute of Sacred Literature of the University of Chicago who will send full information on request.]

COLLEGE

4. Introduction to the Books of the New Testament.—This course considers the historical conditions under which the literature of the New Testament was produced. It treats each of the writings as a separate problem endeavoring to show the time and place of its composition as well as its many purposes. Students will be asked to make an analysis of the various books and also to become thoroughly conversant with the course of history which led to the compilation of the New Testament. Mj. PROFESSOR SEVERN.

5. The Religion of Jesus (112).—Through a comparative study of the four gospels (in English) the student is led to appreciate the attractiveness and creative power of Jesus' personality; to work out for himself the actual content of Jesus' profound convictions; and to systematize Jesus' thought for practical use. Mj. ASSISTANT PROFESSOR MERRIFIELD.

6. Elementary New Testament Greek.—A course for beginners, presupposing no knowledge of Greek. It is based on Harper and Weidner's *Introductory New Testament Greek Method*. The outlines give the student full directions for the work. The aim of the course is to secure inductively a mastery of chapters 1-4 of the Gospel of John and the essential facts of the language. Emphasis is placed upon vocabulary, forms, and principles, and upon the writing of exercises in Greek. Careful study will enable one to acquire the pronunciation of the language and ability to translate simple Greek into idiomatic English. Mj. PROFESSOR SEVERN.

7. Intermediate New Testament Greek.—This course is designed for those who have completed course 6 and for those who wish to review their Greek in connection with the New Testament. It comprises the thorough study of the entire Gospel of John and the reading at sight of the First Epistle of John; also the acquisition of vocabulary and the most general principles of grammar. One who has diligently worked through this course should be able, with the aid of the lexicon, to read the New Testament with comparative ease. Mj. PROFESSOR SEVERN.

ADVANCED

8. Beginnings of Christianity (1).—A sketch of political, economic, cultural, and religious conditions among both Jews and Gentiles from the Maccabean revolt (167 B.C.) to about 180 A.D., including Jewish political history and the conditions of life in Palestine and during the Dispersion. Especial emphasis will be placed upon the rise and early development of the Christian movement, treating such topics as the work of John the Baptist and of Jesus, the history of Christianity in Palestine, the career of Paul, growth of Christianity during postapostolic times, Gnosticism, and the early apologists. A prescribed course. (Identical with Church History 1.) Mj. PROFESSOR CASE.

9. Jewish History in the Time of Jesus (3).—The Jewish people in the Roman Empire; geography, population, and languages of Palestine; influence of Hellenism; political events and parties; industrial, social, and intellectual life; religious groups and institutions; moral and religious ideas. An introduction to the study of the life and teaching of Jesus. Mj. PROFESSOR VOTAW.

10. Life of Jesus (5).—A historical study of Jesus' purpose, method, message, deeds, and personality. The forty lessons treat of the characteristics of the gospels as historical sources, Jewish messianism, Jesus' aim and method in his ministry, the parables, the miracles, the Christology of the gospels, and the historical significance of Jesus. Mj. PROFESSOR VOTAW.

11. The Teaching of Jesus (71).—The four gospels are taken as sources for ascertaining the teaching of Jesus. Topical, comprehensive study of the content of Jesus' teaching. Development of Jesus' religious experience and ideas. Aim, limits, style, and method of his teaching. Mj. PROFESSOR VOTAW.

12. Life of the Apostle Paul and Introduction to the Pauline Epistles (2).—This course is based on that portion of Burton and Merrifield's *Origin and Teaching of the New Testament Books* which deals with the Pauline literature. Study outlines are furnished by the instructor, giving in detail the materials for study and the work to be done in each assignment. The aim of the course is to help the student to acquire a comprehensive knowledge of the life of Paul, to know his letters in the circumstances of their origin and in their teaching, and to appreciate the apostle's personality and his contribution to the Christian movement. Mj. PROFESSOR SEVERN.

13. Introduction to the Gospels, Acts, and General Epistles (2).—Includes a study of the occasion and purpose of each book and its general content and structure. Mj. PROFESSOR SEVERN.

14. The Ethical Teaching of the New Testament (91).—The moral ideal of Jesus on the basis of the Sermon on the Mount supplemented by material from other portions of the gospels. The specific principles set forth by Jesus and the application which he made of them to his own life and to the conduct of others. Similarly, the moral ideal of Paul, with its principles and applications. Mj. PROFESSOR VOTAW.

15. The Greek of the New Testament (41).—Using the Gospel of Mark, a thorough study is made of the syntax of New Testament Greek. Prerequisite: courses 6 and 7 or equivalent instruction in classical Greek. Mj. PROFESSOR VOTAW.

16. The Apostolic Fathers (39).—The course includes a study of (1) the early Christian literature, *ca.* 95-150 A.D.; (2) problems of date, authorship, and purpose; (3) reading of the Greek; and (4) studies in theology and polity. Outlines of the literature will be provided, and reports covering the topics given above will be required. The later development of New Testament ideas and practices, as reflected in this early Christian literature, will be especially emphasized. Mj. PROFESSOR SEVERN.

SYSTEMATIC THEOLOGY

ELEMENTARY

1. Realities of the Christian Religion.

[NOTE.—The foregoing elementary course commands no credit and does not require matriculation. Registration for it must be made with the Secretary of the American Institute of Sacred Literature of the University of Chicago who will send full information on request.]

COLLEGE

2. Outlines of Christian Theology.—An introductory study of the fundamental doctrines of Christian faith, with special reference to their historical origin and their place in modern religious life. The course commands undergraduate credit only, and cannot be counted toward the D.B. degree. Mj. PROFESSOR G. B. SMITH.

3. The Characteristics of Modern Christianity.—A course intended to give an intelligent appreciation of the main ideals and conceptions which enter into the constructive religious thinking of the day, and to show how these find their place in modern Christianity. It is designed primarily for non-professional students but it furnishes a good survey for ministers who have not had a graduate course in theology. It commands undergraduate credit only, and cannot be counted toward the D.B. degree. Mj. PROFESSOR G. B. SMITH.

ADVANCED

4. Systematic Theology.

A (1).—Introduction, discussing the task and method of systematic theology in the light of modern conditions and setting forth the Christian doctrine of God. Mj.

B (2).—The Christian doctrines of sin, salvation, and the person and work of Christ. Mj.

C (3).—The Christian life. The religious and ethical implications of the Christian experience including the doctrines of sanctification, eschatology, and Christian ethics. Mj.

PROFESSOR G. B. SMITH.

5. Christian Ethics (8).—This course sets forth the moral aspects of the Christian religious experience. The Christian moral ideal is compared with the various ethical ideals expounded by moral philosophers. The ethical ideal of Jesus is carefully studied with suggestions as to the method of determining duty in the various fields of human activity. An analysis of the important social problems of today serves to call attention to the field of constructive Christian activity. Mj. PROFESSOR G. B. SMITH.

6. Apologetics (9).—This course is intended to acquaint the student with the general outlines of a defense of Christianity. In the first place the content of Christianity which must be defended is sought on the basis of a historical study of the sources and history of Christianity. The ultimate elements of Christian faith are then defined and justified in the light of modern thought. Questions and topics suggested by the required textbooks are to be discussed in written papers by the student. Prerequisite: course 4 or an equivalent. Mj. PROFESSOR G. B. SMITH.

7. The Theological Significance of Leading Movements of Thought in the Nineteenth Century.—Modern idealistic philosophy, the theological principles of Schleiermacher and of Ritschl, the development of biblical criticism, the growing influence of natural science, the rise of the philosophy of evolution, and the significance of the Pragmatist movement are the chief topics for study. The problems raised for theology by these movements will be carefully considered. Those taking the course should have access to an adequate library or should be willing to incur considerable expense for books. Prerequisite: course 6 or its equivalent and a general acquaintance with the history of modern philosophy. (Informal.) DMj. PROFESSOR G. B. SMITH.

NOTE.—Related courses are offered in Philosophy, Psychology, and Sociology.

CHURCH HISTORY

COLLEGE

1. Outline of Church History.—This course will discuss the development of church institutions under the influence of the Roman Empire, the rise of the papacy, outstanding features of medieval church life, the Crusades, the growth of dissent, Humanism, the changes effected by the Reformation, the rise of modern denominations, and the influence upon the church of nationalism, commerce, and democracy. Mj. ASSISTANT PROFESSOR MODE.

ADVANCED

2. Beginnings of Christianity (1).—A sketch of political, economic, cultural, and religious conditions among both Jews and Gentiles from the Maccabean revolt (167 B.C.) to about 180 A.D., including Jewish political history and the conditions of life in Palestine and during the Dispersion. Especial emphasis will be placed upon the rise and early development of the Christian movement, treating such topics as the work of John the Baptist and of Jesus, the history of Christianity in Palestine, the career of Paul, growth of Christianity during postapostolic times, Gnosticism, and the early apologists. (Identical with New Testament 8.) Mj. PROFESSOR CASE.

3. The Ancient Church (2).—A survey of the progress of Christianity's expansion with the Roman Empire from the second to the sixth centuries, noting the persecutions, the rivalry with other religions, the status of Christians socially and politically, the process of centralization and unification, internal developments, the growth of the church as an institution, the decline of the imperial state church, and the transition to conditions in medieval times. A prescribed course. Mj. PROFESSOR CASE.

4. The Period of the Reformation (3).—This course presents the decisive steps by which Europe passed from medievalism into the early stages of modernism. It includes the Reformation in Germany and German Switzerland; Calvin and his work at Geneva; the establishment of Protestantism outside of Germany and Switzerland; separate reformatory movements such as the Anabaptists and Socinians. As a powerful reactionary movement the Counter-Reformation will be taken into careful consideration. Mj. ASSISTANT PROFESSOR MODE.

5. The Development of Modern Christianity (4).—The Thirty Years' War; Puritanism and independency in England; Presbyterianism in the Netherlands and Scotland; Pietism and Moravianism in Germany; the Jansenist struggle; the Wesleyan revival in Britain; the rise of missionary societies; the church and the French Revolution; the Oxford movement; Roman Catholicism in the nineteenth century; a survey of significant features in American Christianity. Mj. ASSISTANT PROFESSOR MODE.

6. The Church in the Making of the American Nation. Colonial Period (38A).—A study of the place that religion played in the founding of the colonies; the rise of religious bodies in America; their adjustment to conditions in the new world; their revivals; their contribution to education, democratic ideals, and national solidarity. Mj. ASSISTANT PROFESSOR MODE.

7. The Church in the Making of the American Nation. National Period (38C).—The significance of the church in the civilizing of the frontier; the evolution of home and foreign missions; the church and slavery; church divisions between North and South; the Civil War; the policy and present status of Romanism; the socialization of the church and the movement toward church co-operation and union. Mj. ASSISTANT PROFESSOR MODE.

PREACHING AND PARISH MINISTRY

ELEMENTARY

For the courses in English composition see pages 36 ff.

COLLEGE

1. Sermon Making (1).—The character of the sermon is defined in the light of its purpose. The sources of material are studied and suggestions made for the gathering of sermon matter and its arrangement in proper form. The major divisions of the sermon are discussed and suggestions made for its proper delivery. The second half of the course calls for the preparation of sermon plans by the student and the complete writing of one or more discourses. Mj. PROFESSOR DAVIS.

Forms of Public Address (cf. description under English 12, page 39).

ADVANCED

2. The Use of the Bible in Preaching (S16).—In this course the Bible is regarded as the primary source of material for sermons. Selected passages covering all types of biblical literature are studied. Sermon plans are developed and the principles of interpretation are practically applied. Mj. PROFESSOR DAVIS.

3. The Organization of Church Work (20).—This course is a study of the organization and administration of the church in the light of the objective of the modern church. By studying the actual work of a series of churches the student will build for himself a plan and program for internal organization, work, and worship. Such matters as the church constitution, the officers and committees with their duties, the co-ordination of all auxiliary bodies within the church, the relation of the church to civic and welfare organizations will be studied for the purpose of getting the information necessary for the building of one's own program. Each student will make a careful study of a local parish and prepare a year's program for the same. Mj. ASSOCIATE PROFESSOR ARTMAN.

RELIGIOUS EDUCATION

COLLEGE

1. Religious Education in the Modern Family.—This course deals with the family as an agency of training for a better society; it discusses in detail the educational function of the family and its possibilities and problems in moral and religious training. It is designed for parents, ministers, leaders of parents' clubs and classes, social workers, and teachers of adult classes in the church school, and considers among other topics, the social place and problems of the modern home, the methods of social and religious training in the home, dealing with moral crises, children's lies, story-telling, reading, worship in the home, problems of money, work, sex instruction, and social standards. Instruction is by means of textbooks, and, in the discussion of problems, it follows very largely the case method, at all points being designed to give both the fundamental principles of character formation in the home and to offer help on its practical difficulties. Prerequisite for university credit: "Introductory Psychology" or "Genetic Psychology" or equivalent training. Mj. DR. COPE.

2. Religious Education in the Church.—An introductory course on the work of religious education as carried on in the various agencies of local churches, with special attention to the agencies of instruction in the church school, or Sunday

school, and in week-day schools of religion. The course is designed for those who wish to prepare for practical usefulness in their churches and communities. It looks forward to the newer developments in this field. Emphasis is laid upon concrete situations and practical aspects while the student is aided to make first-hand studies of schools and churches and to report upon the application of the theories studied. The topics include: (1) education in the church; (2) Sunday-school organization, curriculum, activities, teaching methods; young people's work; week-day schools; work with boys and girls; community relationships and recreation; co-ordination of church programs; training of workers; social service. The course is designed for undergraduate students. Mj. DR. COP.

3. Bible Story-Telling.—This course will consider (1) the story as a medium of moral and religious instruction; (2) the Bible as a source book for stories of men of high ideals, character, and force; of the origins of Judaism and Christianity; of Jesus and his followers in the first century; of men of fifteen centuries whose ideals influenced not only their own, but succeeding generations; (3) the selection of stories ready for telling; (4) the construction of stories from scattered biblical passages; (5) principles of selection and presentation of stories in different grades of the Sunday school, the day school, the library, or other fields; (6) local practice of story-telling upon which reports and criticism will be exchanged; (7) the dramatization of Bible stories. A course for persons engaged in religious education, or for story-tellers in libraries, or day schools, or other groups. Mj. MISS CHAMBERLIN.

ADVANCED

4. Principles and Methods of Religious Education.—The course is an adaptation of course 30 in residence. It provides a general introduction to the field of religious education. At the outset the religious life and its place in human development are defined, and the aim of religious education is made clear. This leads the student to investigate the neighboring fields of psychology and education to discover their contributions to the subject. The moral and religious development of the growing child is considered genetically, and examination is made of available material to determine its value in the various stages of child life. Various methods of conducting organized groups of young people are considered, with special attention to boys' clubs and young people's societies, and the special opportunities of the home, the public school, and the church are indicated. Other community factors are discussed and a basis of co-ordinating all agencies is formulated. Mj. PROFESSOR WARD.

5. The Modern Sunday School.—This course discusses in detail some of the concrete problems of the modern graded Sunday school: (1) principles of organization; (2) characteristics and needs of children and youth; (3) the learning process; (4) graded organization; (5) the work of the departments; (6) graded curricula; (7) methods of service activity; (8) methods of survey; (9) methods of observation work; (10) social life; (11) worship; (12) extension into week-day work. The course is planned to enable every student to understand his own school problems and to develop practical plans based upon the experiments and results of advanced workers. Instruction is by means of textbooks, topics for special study, reports on local observation, and lesson outlines which guide the student in his study of these problems. The course will be of special value to the superintendents, professional workers, and pastors who wish to learn more of the best Sunday-school methodology. Prerequisite: if graduate credit is desired "Introductory Psychology" or an equivalent course. Mj. DR. COPE.

6. Development of the Religious Life (50).—This course seeks to discover the nature of religion according to organic social psychology; the function of religion in the development of dependable conduct; the nature and function of ceremonials, ritual, prayer, worship; the comparative value of revivalist and religious education as methods of stimulating the development of religious control. Mj. ASSOCIATE PROFESSOR ARTMAN.

Psychology of Religion (cf. description under Philosophy 12, page 14).

NOTE.—Related courses are offered in Philosophy, Psychology, Education, and Sociology.

The Church in the Making of the American Nation. National Period (38C).—The significance of the church in the civilizing of the frontier; the evolution of home and foreign missions; the church and slavery; church divisions between North and South; the Civil War; the policy and present status of Romanism; the socialization of the church and the movement toward church co-operation and union. Mj. ASSOCIATE PROFESSOR MODE.

PREACHING AND PARISH MINISTRY

ELEMENTARY

For the courses in English composition see pages 37 ff.

COLLEGE

Sermon Making (1).—The character of the sermon is defined in the light of its purpose. The sources of material are studied and suggestions made for the gathering of sermon matter and its arrangement in proper form. The major divisions of the sermon are discussed and suggestions made for its proper delivery. The second half of the course calls for the preparation of sermon plans by the student and the complete writing of one or more discourses. Mj. PROFESSOR DAVIS.

Forms of Public Address (Cf. description under English.)

ADVANCED

The Use of the Bible in Preaching (S16).—In this course the Bible is regarded as the primary source of material for sermons. Selected passages covering all types of biblical literature are studied. Sermon plans are developed and the principles of interpretation are practically applied. Mj. PROFESSOR DAVIS.

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RELIGIOUS EDUCATION

COLLEGE

Religious Education in the Modern Family.—This course deals with the family as an agency of training for a better society; it discusses in detail the educational function of the family and its possibilities and problems in moral and religious training. It is designed for parents, ministers, leaders of parents' clubs and classes, social workers, and teachers of adult classes in the church school, and considers among other topics, the social place and problems of the modern home, the methods of social and religious training in the home, dealing with moral crises, children's lies, story-telling, reading, worship in the home, problems of money, work, sex instruction, and social standards. Instruction is by means of textbooks, and, in the discussion of problems, it follows very largely the case method, at all points being designed to give both the fundamental principles of character formation in the home and to offer help on its practical difficulties. Prerequisite for university credit: "Introductory Psychology" or "Genetic Psychology" or equivalent training. Mj. DR. COPE.

Religious Education in the Church.—An introductory course on the work of religious education as carried on in the various agencies of local churches, with special attention to the agencies of instruction in the church school, or Sunday

school, and in week-day schools of religion. The course is designed for those who wish to prepare for practical usefulness in their churches and communities. It looks forward to the newer developments in this field. Emphasis is laid upon concrete situations and practical aspects while the student is aided to make first-hand studies of schools and churches and to report upon the application of the theories studied. The topics include: (1) education in the church; (2) Sunday school organization, curriculum, activities, teaching methods; young people's work; week-day schools; work with boys and girls; community relationships and recreation; co-ordination of church programs, training of workers; social service. The course is designed for undergraduate students. *Mj. DR. COPE.*

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ADVANCED

Principles and Methods of Religious Education.—The course is an adaptation of course 30 in residence. It provides a general introduction to the field of religious education. At the outset the religious life and its place in human development are defined, and the aim of religious education is made clear. This leads the student to investigate the neighboring fields of psychology and education to discover their contributions to the subject. The moral and religious development of the growing child is considered genetically, and examination is made of available material to determine its value in the various stages of child life. Various methods of conducting organized groups of young people are considered, with special attention to boys' clubs and young people's societies, and the special opportunities of the home, the public school, and the church are indicated. Other community factors are discussed and a basis of co-ordinating all agencies is formulated. *Mj. PROFESSOR WARD.*

The Modern Sunday School.—This course discusses in detail some of the concrete problems of the modern graded Sunday school: (1) principles of organization; (2) characteristics and needs of children and youth; (3) the learning process; (4) graded organization; (5) the work of the departments; (6) graded curricula; (7) methods of service activity; (8) methods of survey; (9) method of observation work; (10) social life; (11) worship; (12) extension into week-day work. The course is planned to enable every student to understand his own school problems and to develop practical plans based upon the experiments and results of advanced workers. Instruction is by means of textbooks, topics for special study, reports on local observation, and lesson outlines which guide the student in his study of these problems. The course will be of special value to superintendents, professional workers, and pastors who wish to learn more of the best Sunday-school methodology. Prerequisite: if graduate credit is desired, "Introductory Psychology" or an equivalent course. *Mj. DR. COPE.*

Development of the Religious Life (50).—This course seeks to discover the nature of religion according to organic social psychology; the function of religion in the development of dependable conduct; the nature and function of ceremonials, ritual, prayer, worship; the comparative value of revivalism and religious education as methods of stimulating the development of religious control. *Mj. ASSOCIATE PROFESSOR ARTMAN.*

Psychology of Religion (Cf. description under Philosophy).

NOTE.—Related courses are offered in Philosophy, Psychology, Education, and Sociology.

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